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# AOPA'S VOICE IS LISTENED TO SERIOUSLY

**W**ith the shorter hours of daylight at this time of year there is less opportunity to fly, although I was fortunate enough to get in the air for a short flight a few days ago. It is a privilege to escape the constraints of being earthbound, even for a short time. The Cub almost knows its own way to Turweston from White Waltham, and the north-south trip avoids the visibility problem of flying one leg into low winter sun. The air was absolutely smooth, lending a surreal feeling to the flight of being suspended over a large moving map. However, the point about one's leisure time being less occupied by such pursuits in winter is that there is more time to consider, for example, how well AOPA is serving its members' needs by having a voice where it matters.

This prompted me to review past Chairman's Messages. Of course, 'value' is not intended to be purely financial, although some of what AOPA has done has produced financial benefit. A good example was the staving off of VFR charges with which European owners were threatened in 2007. Based on IFR charges for heavier aircraft, a VFR charge of £10 per hour seemed a possibility. The saving resulting from averting this charge for the average pilot would be much more than enough to cover the AOPA annual subscription. It also underlined the value of belonging to IAOPA (Europe). At the same time, AOPA US was in a similar position having to fight off 'user fees'. Unfortunately, we cannot assume that VFR charges have gone away for ever, it is likely that the proposal will pop up again some time in the future – we will be keeping a close eye on it. Issues like this, where what does not get through the net, is something that AOPA does best. Retaining the status quo here was a 'win'!

The IMC rating and its possible demise was the subject of several Chairman's Messages, the first warning appearing in 2007. As a national rating, it was unable to be attached to the then recently established EASA licence, but many IMC qualified pilots were unhappy that such a life-saving piece of paper was destined for the bin. Naturally, AOPA UK, as the originator of the rating, fought to retain it, and its future is secure in the guise of the IR(R) until 2019, at least. The value of keeping the rating viable is intangible, as are so many things relating to safety.

There are other examples, and more recently AOPA's voice has been exercised in the DfT's direction in response to a consultation: "A new aviation strategy for the UK: call for evidence – a long-term vision for the sector to 2050 and beyond". This refers to a paper published in July 2017 entitled "Beyond the horizon: The future of aviation in the UK". It is mainly aimed at the air transport industry, but GA is recognised as playing an important role, hence AOPA needed to respond, as did all the GA associations (this first round of consultation ended in October 2017). There is more on this from Martin Robinson, our Chief Executive Officer – see later pages. We believe AOPA's voice is listened to seriously and can produce results. Your investment in AOPA is valuable – a strong membership gives us the resources that we need to do our work. ■



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Padholme Road  
Peterborough, PE1 5UL  
+44 (0)1733 341444  
www.fisherprint.co.uk

© British Light Aviation Centre Ltd  
AOPA is a member of the International  
Council of Aircraft Owners and  
Pilots Association. IAOPA



Articles, photographs and news items from AOPA members and other readers are welcome. Please send to the Editor. Inclusion of material in AOPA Magazine cannot be guaranteed, however, and remains at the discretion of the Editor. Material for consideration for the February 2018 issue should be received no later than 02 January 2018.

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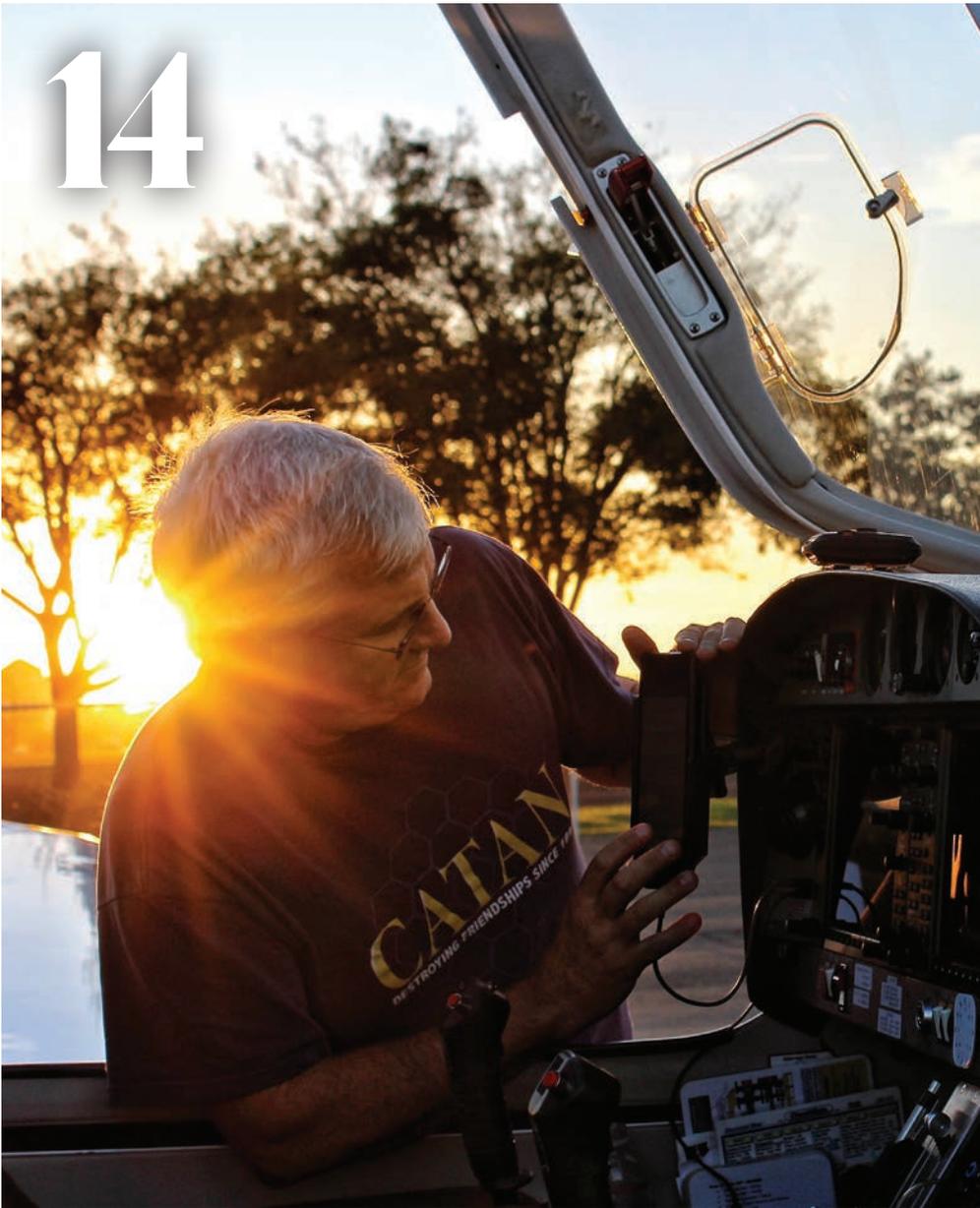
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## EDITOR'S MOMENT

There's an aerobic edge (not the aircraft) to the December issue of AOPA UK. Whether you want to compete or not in aerobatics, learning the skills required to fly manoeuvres can become an invaluable part of everyday flying. Alan Cassidy explains this in his feature on page 38. There's also a look at the aerobatic Extra 330LT, a luxury aircraft that offers the best of aerobatic ability as well as comfort and high tech.

Elsewhere in this issue Angus Clark tells his story of flying around Europe, Adam Winter prepares us for the cold season, and Malcolm Bird gets to grips with 8.33 radio.

Martin Robinson also explains how AOPA is trying to improve the Government's paper on making the UK the world's best place for aviation. This issue is simply packed with useful information for the season ahead, helping you to keep on flying safely and successfully! It's full of love for flying and how to ensure you keep doing it!

It's early, but all that's left for me to do is to offer you all season's greetings and let's hope 2018 is great for GA!

**David Rawlings**  
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# WHAT AOPA SAID TO THE GOVERNMENT

**T**he Government's document entitled *The Future of UK Aviation* is an all-embracing title but only dedicates a single paragraph (6.17) to GA. This is woefully inadequate for such an important piece of work. Drawing on what's happened in the past we can look to the future. Therefore this response will aim to address GA's future in line with the Government's six key objectives.

Below is an extract of what we said – If you would like a full copy of the response please email me at martin@aopa.co.uk

## HELP THE AVIATION INDUSTRY WORK FOR ITS CUSTOMERS

Who are the customers in GA? To answer that question there is a need to understand that all of aviation depends on student pilots. So for aviation to exist you need individuals who want to learn to fly, either to become a professional or to private pilot. Without a strong and stable through-put of new pilots each year the system will fall into further decline. At its peak in the early 1990's the CAA were issuing around 4,000 new PPLs per year (source: CAA statistics). After the removal of NVQ tax relief the average fell to about 3,500 and this through-put of licences appeared to provide a level of stability for the flight training industry. However, that average has fallen and is approximately 2,500. An easy calculation can show the impact this has had on new aircraft sales as well as the second-hand market. The domino effect of this is less maintenance, less flight instruction, less fuel sales, less insurance being sold, all leading to lower levels of activity resulting in pressure on the infrastructure

## ENSURE A SAFE AND SECURE WAY TO TRAVEL

From this objective we consider the Government to be referring to security as it applies to terrorism and associated crimes. The aircraft itself is not the problem, the criminals that use them are, and they're just using another form

of transport to facilitate their crime. If the Government has evidence-based concerns in respect of GA operations then we need to work together more closely. GA has to remain part of the solution – the EYES AND EARS!

## BUILD A GLOBAL AND CONNECTED BRITAIN

Aviation is a 'global business', even for GA. ICAO Annex 6 deals primarily with International GA through SARPs. The work that has been carried out thus far, through the GBASF group (CAA/DfT and GA), led to a publication in which the Government stated that, "The UK should be the best place in the world for GA." Whilst AOPA clearly supports this statement, we are yet to be convinced that it could even be achieved. In our opinion the Government should commission a bench-marking study to compare other states, such as the US, which is considered, by many, to be the best place for GA and determine what needs to be done in the UK

## ENCOURAGE COMPETITIVE MARKETS

All businesses need a stable environment and one, which is fairly predictable, however in the current climate we can say we are living through the most unpredictable period in our history, therefore it is crucial that GA has the right policies to underpin its future. This will include policies around taxation, 'brownfield' sites, planning and fuel etc. GA needs a sustainable network of flying sites to be a part of a competitive market

## SUPPORT GROWTH IN RESPECT OF ENVIRONMENTAL IMPACT

AOPA fully supports the need to make aircraft quieter and more fuel-efficient. I should point out that whilst the environmental impact of commercial air transport is quoted as being 2% of global total impact for emissions, the GA impact is tiny in comparison.

As cleaner/greener fuels are developed in our sector the Government should consider reducing the level of duty to zero for a minimum of five years. This

could lead to a greater use of the fuel and would probably stimulate the flight training market allowing for growth without additional emissions.

Electric engines as well as hybrid engines will also have an environmental impact in the future. The UK should support these developments by ensuring regulations do not prevent progress

## INNOVATION, TECHNOLOGY & SKILLS

So digitalisation of aviation systems should form the backbone of any future aviation strategy. As this develops new skills will be required and this will need to be addressed by schools and universities. If the UK is not, in future, able to access research and development funds through programmes such as Single European Sky ATM Research (SESAR) the UK must think about funding research and development in the aviation sector.

## IN SUMMARY

The Government's six key objectives also apply to GA and the paragraph 6.17 does not do justice to a paper about the 'future of aviation in the UK'.

Our wishes are for Government to accept the points made in this response and to work with the GA community to develop an environment that enables growth in the activities which remains as safe today, has less environmental impact, brings more economic benefits to the national and local economies and is more available to all sectors of society; and where technology enhances the safety and efficiency of all our operations and that its affordable.

We want GA to remain an enjoyable activity for all of us who are passionate about flying. ■



*M Robinson*

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# HELPING YOU STAY FLYING

Welcome to the new AOPA Community section of the magazine, bringing you all the news and insight from the world of AOPA...



## WORKING FOR YOU

What we've been doing



## AIRFIELDS UPDATE

The latest news on UK airfields



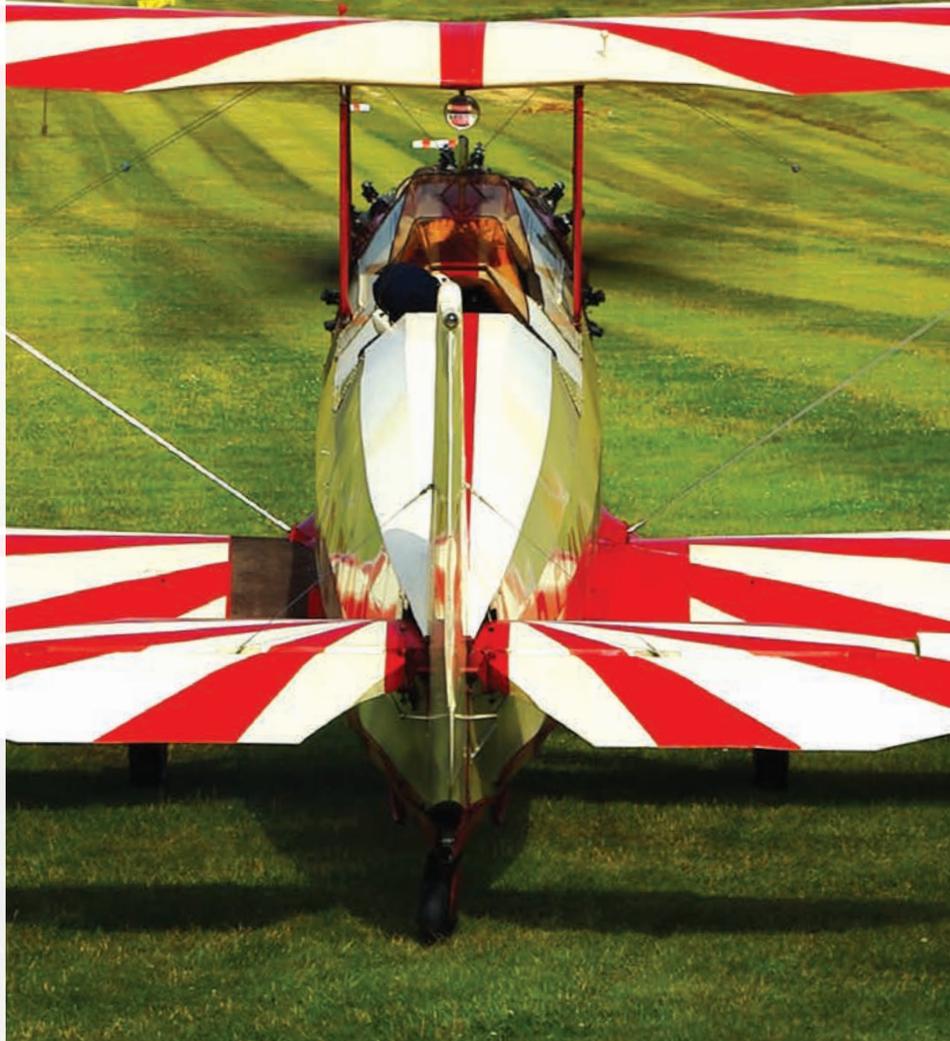
## PPL CORNER

Get ready for winter



## AOPA ADVICE

Using your 8.33 radio



**WORDS** Pauline Vahey

# AOPA WORKING TOWARDS IMPROVING AVIATION FOR ALL

*The latest updates from the meetings within AOPA that aim to protect you, the pilot*

The Members Working Group (MWG) and Corporate Members Committee (CMC) have regular meetings to ensure the world of General Aviation is being taken care of, and that the businesses involved in GA are protected.

In the latest CMC meeting, which took place on 13 September at Stapleford Aerodrome, the following subjects were the hot topics of debate...

## **AIRSPACE ISSUES**

Drones are becoming a hot

topic, especially on how they will be integrated into GA Airspace. AOPA's CEO Martin Robinson introduced the topic of drones at the meeting. He informed those present that it was proposed that drones should be equipped with sense and avoid systems, enabling them to sense and avoid other aircraft.

Apparently, this technology is close to being implemented. Also, it was being proposed that a registration system should be implemented for drone operators. It was also proposed that commercial drones be regulated by health

*"Drones are becoming a hot topic, especially how they will be integrated into GA Airspace"*

and safety legislation. Given the growth in drones it is important to integrate their operation into GA airspace whilst ensuring they avoid the aircraft already in it. Satellite technology and geo-fencing are being used where the drones are using the SWIM (System Wide Information Management) programme.

Drone operations at airfields are seen as a business opportunity. AOPA was considering the introduction of an airspace course for drone operators. It was important to improve the situational awareness and



The shortage of flying instructors doesn't seem set to be resolved any time soon



**Drones are becoming a big issue in UK airspace and they will become a problem if not properly controlled**

management of airspace, with a known environment and known intent.

#### **SHORTAGE OF FLYING INSTRUCTORS**

There is still a shortage of PPL Instructors. It was suggested that the BCPL was reintroduced as this rating trained instructors, not future airline pilots.

Introducing the COPL standard examinations for FIs has done nothing to improve the accident rate. It is also a fact that an EASA certified pilot was only marginally safer than an Annex 2 pilot, however the burden of regulation and cost was significantly higher for the EASA regulated pilot.

If it could be achieved for microlight instructors, why not the traditional fixed-wing aircraft?

The head of CAE Oxford had been quoted as saying airline pilots will come through the aeroclubs.

However, the entry into flying has to be made simple and cheap. The comparison between the earnings of a BMAA instructor and those of a conventional spam can instructor should be made and the differences removed. Flight test standards shouldn't drop and in general flight examiners are very good.

It was proposed that the new AOPA website have a Corporate Members and Flying Instructor Members

area where there could be adverts for both sides, availability of FIS and a jobs board for CMs.

#### **AOPA WINGS AWARD**

The discussion widened to a more general approach as to how to encourage more young people into flying and keep them. Ideas were discussed such as Kids Clubs on airfields, using media such as the new Disney movie featuring planes and making a competition out of it.

Encouraging schools and children to visit the airfields could count as part of the flora and fauna required by the National Curriculum. The old Cabair helicopter programme was referenced. Careers evenings for young people were held at Stapleford where they could meet ex pupils who had gone on to become airline pilots and engineers. Was an engineer swap scheme viable?

#### **TAXATION ISSUES**

John Walker, who oversees the aerodromes updates for AOPA, has foreseen a potential up and coming issue over the possibility of business rate changes being implemented on hangars at UK airfields, as Local Authorities can now keep all of the income generated by business rates in the future.

If you hear of any of these instances, please report them to AOPA. ■



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**WORDS** John Walker **IMAGES** jay-jerry

# LATEST NEWS ON OUR UK AIRFIELDS

*John Walker offers the latest news and developments at the UK's aerodromes*

**There are airfields across the UK currently under threat of closure. Here are the latest developments, updated 20 October 2017.**

**ELVINGTON**

York City Council definitive Local Plan consultation document issued on 18 September 2017 includes a development of up to 3,330 dwellings partly occupying the middle section of the Elvington airfield runway. The consultation is due to end on 30 October 2017.

**FAIROAKS**

Surrey Heath Council made a confidential, unsuccessful bid to establish a Garden Village with 1,500 homes on site under Government scheme. Tenants advised later of proposal and public consultations started in February 2017 with submission of planning application due in late 2017.

**HALFPENNY GREEN**

Sold to MCR Property Group, an investment and development company

focused on commercial and residential real estate. The Group expect to complete an initial study by Autumn 2017 of future airport income and investment that reportedly excludes housing on the site.

**LONG MARSTON**

Airfield is designated in Stratford-Upon-Avon emerging Local Plan for housing and has Garden Village approval. A Supplementary Planning Document for the site was issued on 19 October for

public consultation. Developer is Cala Homes in conjunction with site owner. Airfield tenants given Notices to Quit by the end of 2017. Refer to entry for Wellesbourne below.

**WELLESBOURNE MOUNTFORD**

Gladman Developments in conjunction with the owner have proposed a housing development with 1,600 homes on the site, although the Stratford-Upon-Avon Local Plan Core Strategy has earmarked Long Marston as a preferred housing site. The Core Strategy after approval by a Planning Inspector has been adopted by the Council and states that "The aviation related functions at Wellesbourne will have been retained and enhanced". Tenants previously notified by owner that flying activities would cease in December 2016 but the airfield remains open pending the result of court action by the tenants to obtain new leases. The District Council has formally rescinded the owner's permitted development rights for the airfield and is seeking to negotiate a possible purchase of the site. ■



**Fairoaks has been under threat from Surrey Heath Council**

**MOD SITES**

MOD document *A Better Defence Estate* issued on 7 November 2016 lists the following aerodrome sites for disposal in the years indicated:

- Abingdon 2029; Alconbury 2023;
- Arbroath, RMB Condor airfield 2020;
- Brawdy, Cawdor Barracks 2024; RMB

- Chivenor 2027; Colerne 2018; Dishforth airfield 2031; RAF Halton airfield 2022;
- RAF Henlow 2020 - site earmarked for mixed use development in Central Bedfordshire Council draft Local Plan;
- Mildenhall 2022; Molesworth 2023;
- North Luffenham 2021 - Defence

Infrastructure Organisation (DIO) and Rutland County Council discussing Garden Village proposal for this site; Woodbridge, Rock Barracks 2027.

The former RAF Wethersfield airfield site is being transferred to the HCA in 2020.

*RAF Wyton airfield is being sold off – DIO and local property developer Crest Nicholson proposal for up to 4,500 homes on site. Due to road infrastructure issues, site deleted from Huntingdonshire District Council definitive 2036 Local Plan for mixed use development including housing.*

WORDS Adam Winter

# WINTER IS COMING...

*Nights are drawing in, days are colder, but there's still plenty of flying to be done. Here, Adam Winter explains how to stay safe over winter*

Winter is here, as reliable as death and taxes. Along with the worst flying conditions and hazards you are likely to encounter, also come some of the best flying days you could possibly imagine.

The two factors that really affect flying in the winter are the weather and the early onset of evening. Don't get caught out by either.

The weather is characteristic of the air mass that dominates the UK at any given time. These are the polar continental or maritime masses of air and are either cold and dry, or cold and moist, as they are forced up over the relatively warmer landmass of the UK. These masses cause the weather characterised by the temperature and moisture content of the air. For example, a Polar Continental air mass comes down from the North and if it has travelled mainly overland it will be quite dry. This will bring the weather we want as it is likely to be a crisp clear day.

Engines love the winter as each breath into the cylinder can contain up to 11% more oxygen than in the summer. Unfortunately, some of the negative aspects of winter far outweigh these advantages. Your aircraft's take off performance can be affected by factors such as wet grass, which although not confined to the winter it is prevalent.

## DRESS CORRECT

My flying career was mainly spent in Africa and the Caribbean. My priority in winter here is to remain warm and comfortable. That way I

## ADAM WINTER



Adam is a commercial pilot with more than 30 years' experience. His career has included bush flying in Africa and island hopping in the West Indies, as well as a stint in the airlines. He is also a physics teacher with three years' classroom experience.

can perform all tasks without hurrying or being distracted by shivering and thinking of Africa or the Caribbean. Winter is at its most miserable when doing the first pre-flight of the day. I have to wear gloves and a hat that covers my ears or I really do rush things. When checking for fuel contamination in the winter it is more likely that condensation has occurred in the air above the fuel in the tank, and a few drops of water may appear in the fuel sample, so take extra care to inspect it. This won't happen if the tank is full, but check with your club or school if they want it left full for the next flight.

Ice and snow have to be completely cleared from all surfaces. Ice and snow have to be completely cleared from all surfaces. ICE AND SNOW HAVE TO BE COMPLETELY CLEARED FROM ALL SURFACES. Have you got the message?

It won't blow off down the runway! If the weather is hovering near freezing overnight and it is going to be clear, often an hour or two in the sun will melt all the ice and snow, so a plan to take off mid-morning might solve the ice problem.

You need to check with your school how they want you to de-ice, but I use a brush initially to sweep off the 'fluffy stuff', then de-icing fluid (mixed with water) sprayed over all other surfaces. Once the ice is melting and water is dripping satisfyingly from the surfaces, I go around and check for ice or snow on the pitot tube and static vents, engine intakes and elevator and aileron hinges.

If the aircraft has wheel spats, check these are clear too. Another consideration in freezing conditions is ice that you can't see. Most light aircraft have drain holes. If one of these has become blocked, which is not uncommon, the trapped water can freeze. As the water freezes it can cause damage as it expands, or control imbalance. Learn where the drain holes are and check them. Also check under the wings and fuselage for dried mud – and just like ice, don't take any flying with you. You will need to gently wash it off with water and be careful not to clean any lubricant away from hinges.

## PLAN AHEAD

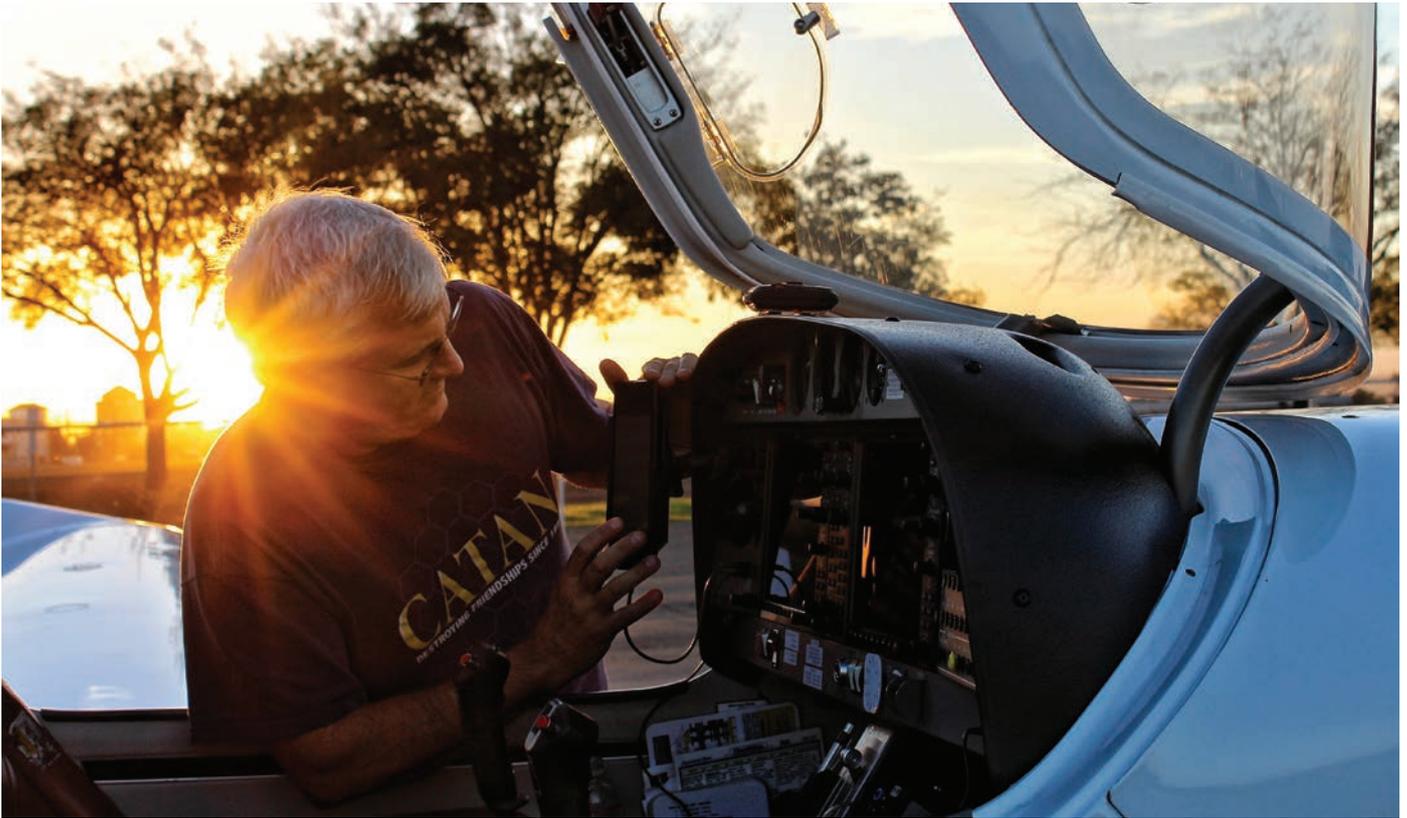
Once you are ready to fly, again, think about your warmth and your passengers'. You know how effective the heating is or isn't in your plane, so dress accordingly

and advise your passengers. Imagine you are in a two-seater Cessna and your passenger decides they need to remove their triple-insulated ski jacket at 2000ft.

Starting your engine is different to the summer start. The oil is thicker and the fuel less inclined to evaporate in the manifolds, so it is harder to start.

Priming then becomes an option for some light aircraft types. Now you have to be careful of over-priming, which can cause engine fire on start up. Be sure you know the drill that usually consists of turning the fuel off at the cock, full throttle, mixture lean cut off and crank with the starter. So once you have started the engine and it is warming up, the heater at last begins to take effect. The warm air that comes from it not only starts to warm you up, but also any dampness in the plane from sitting in the cold overnight starts to evaporate and dry things out. And as this newly saturated warmer air touches the cold windows, it condenses anew, coating said window with an opaque film of tiny water droplets. Added to this your duffle-coated passenger has started sweating but isn't saying anything yet, because oh no, they will wait at least ten minutes and announce their discomfort at 2000 feet.

The excessively moist air will clear quite soon, and opening the doors briefly a couple of times before take off can clear it more quickly. You can wipe it from windows with a cloth to allow for careful taxiing, but make sure the cloth is clean, absorbent



Pre-flight checks in winter need to be carried out – make sure you do them thoroughly

and non-abrasive. Also try not to wipe in circles, but straight up and down (this applies also when cleaning the outside of the windscreens as well).

I mentioned earlier about the reduced performance on take off in certain conditions, and this can apply equally on landing. Braking action on ice and mud will be poor. Also take care to taxi slowly and carefully as you don't know if there is ice under the wheels. Taxiing in strong winds can be tricky especially if ice is causing reduced braking action. Think about your personal crosswind limits with the poor braking action in mind, maybe refine your thinking there.

#### THINGS CHANGE QUICKLY

Understanding the weather and forecast for a route is essential any time of year, but in the winter the weather can change very quickly. The change is likely to be forecast, and you should be careful that you know exactly when sunset is and plan to be on the ground well before it. If you

*"If you get to where you are going at sunset with a westerly runway and visibility is very poor, don't panic"*

get to where you are going at sunset with a westerly runway and visibility is very poor, don't panic. With the sun being so low in the sky, its shining through the haze can cause reduced visibility.

Once the sun has gone below the horizon the visibility should improve. The forecast might well have stayed with '9999', but this haze can reduce visibility considerably below ten kilometres. I hope you saw this or see it during your training. The plan should have been to get back while the sun was still higher in the sky.

If you are having to land after sunset I think it is cutting things a bit short with little room for diversion.

The 30 minutes you have before dark after sunset (twilight) can be a lot shorter if there is cloud cover, especially to the west.

Winter is a good time to hone some of your flying skills and also a good time to consolidate some of your experience. Over the winter at AOPA we will be looking at

some short evening classes. You will find details of these on the AOPA website under "Training". This year, apart from the ab-initio PPL ground courses, we will be conducting evenings with further education in mind.

I am going to do some "Whizz Wheel Wednesdays" which will run from 19:00-21:00. These are for both new PPL students and anyone who has fallen out of love with their whizz wheel computers. We are also doing some "RT Tuesdays" evenings which are run by Vicky Farmer who is a Flight and Radio examiner. Her evenings are designed for the PPL student and licence holders who want to gain confidence by improving their radio telephony. Vicky can also do the RT practical exam.

Happy flying, and don't forget to put on your hat and coat - by order of:

**Adam Winter**

*If you have any issues regarding any flying, Adam can advise. Email him via: adam.winter@aopa.co.uk*

WORDS Malcom Bird IMAGES Various

# YOUR NEW 8.33 RADIO

*Like it or not the 8.33kHz radios are here. Here's an update from the AOPA Maintenance Working Group about the new radios*

Hopefully you have now completed the conversion to an 8.33 capable radio. (If not, there are various articles around to help you understand the need, and the CAA still have some funding available to help.)

Now you have the radio, it might help to understand how it can best work in the environment that is gradually changing for GA over the coming months and years. The CAA say they are planning a "rolling conversion through 2018." At present most ATC stations are still operating on their old 25kHz spaced channels – but this will be changing.

In the past, the 25kHz spaced channels were identified by their target frequency. In the new 8.33kHz spaced world,

the name given to a channel is not its actual frequency. Even though it looks like a frequency, it is called the channel number.

The good news is that if you simply dial up the number listed for an ATC unit, you need not worry any more about it and all is good. (But note that charts and printed guides are likely to be out of date almost as soon as they are printed during the transition period.) So for many users, you can stop here and move on...

However, it may be useful to understand things a little better. Firstly, because it may not be that easy to dial up the number an ATC unit has listed, and secondly because there can be some strange effects using 8.33 channels on certain

*"It may be useful to understand things a little better. For one, because it may not be easy to dial up the number an ATC unit has listed"*

frequencies that cover large geographic areas.

## SELECTING CHANNELS

The new 8.33 radios can usually be set up to work in 8.33 and 25kHz modes. In this way, you can use 25kHz mode when you know you will only be talking to 25kHz frequencies. Turning the fine-tune frequency knob can jump between the possible 25kHz frequencies. This allows you to move up and down the frequency spectrum with relatively few twiddles on the tuning knob. When you know you are going to be talking to an 8.33 separated channel, you can switch to 8.33kHz mode and will then find that the radio allows you to enter the 8.33 channel numbers. In most cases, a radio in 8.33 mode,



Installations of the 8.33 radios have begun in earnest. Understand how they work...

allows the user to dial up both 8.33 AND 25kHz separated channel identifiers. In this mode, rather more turns of the fine-tune frequency knob are required to move through the possible 25kHz separated frequencies and the 8.33kHz separated channel numbers.

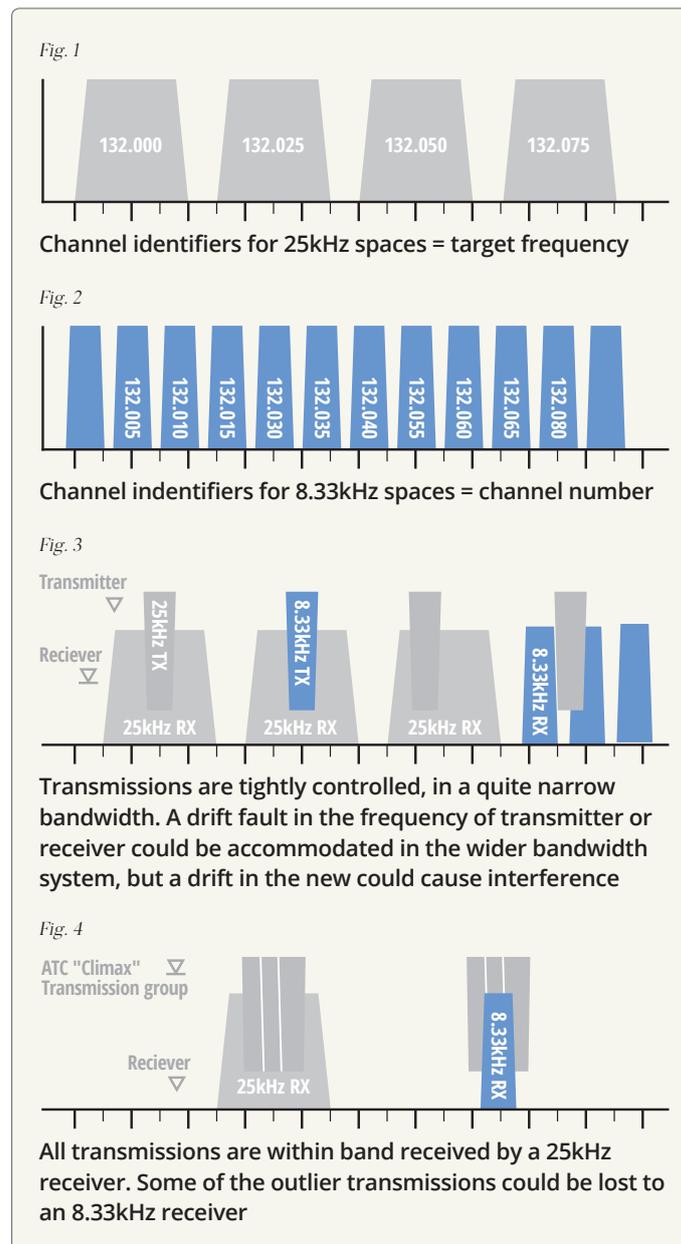
In general, whilst only 25kHz separated frequencies are being used, it makes sense to leave the radio in 25kHz step frequency mode. However, as ATC units begin to change over you will need to switch to 8.33kHz channel number mode, or at least know how to do so at short notice.

In most radios it is a simple matter to switch between modes. For example, Trig allow you to just push the fine-tuning knob to toggle between “25kHz spacing” or “8.33 AND 25kHz spacing” modes. Some radios make it more complicated; for example, the ICOM IC-A220 needs you to dive into the menu system to change and even then it changes between either 8.33 OR 25kHz separation modes. So, once in 8.33 mode you cannot get to the 25kHz separated frequencies! It has been pointed out to ICOM that this is not a good approach as both systems will coexist for a considerable time – they say they are working on a solution.

To be ready, and in order to get used to the tuning process, it may be best to switch your radio to 8.33 mode now, as long as it can get to both the frequencies and channel numbers in this mode.

#### RF CHANNEL EFFECTS

As you might expect, an 8.33 spaced channel works in a narrower space in the radio frequency spectrum and because of this we can fit more channels into the VHF-airband radio spectrum. However, we are still trying to get the same amount of information flowing within this narrower band, so everything is having to work harder and



you might not have a better radio experience than before (see Fig. 1 and 2).

In the past, the radios could drift off quite a bit before communication quality dropped off significantly. With the narrower bands the radios have to be much more tightly tuned. It is possible to make radios that work to these tighter tolerances as a result of technology improvements. It is usually easier to get a radio to transmit within a narrow band at a well-defined frequency, and most aviation radios have been broadcasting narrow signals for many years. In fact it seems that the old 25kHz spacing and

the new 8.33 capable radios transmit over a similar narrow bandwidth. The new radios are simply much more capable at locking out all reception, other than the narrow focus for a particular 8.33 channel (Fig. 3).

If you try and listen to a 25kHz transmission using the 8.33 channel number for that frequency, it is possible that reception might be poor if the transmission has drifted off a bit. The drift may be fine for a 25kHz receiver but not an 8.33kHz one. So use the frequencies for old 25kHz spacing channels and the new channel numbers for the 8.33kHz spacing ones.

Another issue that arises is

that some ATC units cover a wide area and employ multiple aerials in what is known as the “climax” system. These various aerials may transmit at slightly different frequencies as this helps to stop them interfering with each other. All the frequencies are within the 25kHz band and so a radio using the 25kHz spaced channel can pick them up. However, a radio tuned to an 8.33 channel number might well not. The result can be that communication quality can be very bad when talking to such ATC units using an 8.33 channel number. Once again, use the appropriate frequency for the unit and not the 8.33 channel number (Fig. 4).

#### DATABASES

The new radios typically let you store both frequencies and channel numbers, and usually you can store a textual name with the identifier. This is worth setting up and provides useful feedback that you are tuned to the correct ATC unit. However, as the 8.33 rollout occurs, you must remember to change your database to reflect the most up to date channel identifiers. It is all too easy to leave a 25kHz channel frequency in the database and later find the ATC unit has switched to an 8.33 channel.

This could lead to you talking to the wrong ATC unit or suffering from break-in from an adjacent 8.33 channel.

#### SUMMARY

There will be ATC stations using a mixture of 25kHz and 8.33kHz spaced channels for some years to come, so a radio that can easily tune in to BOTH is required. Ensure that you know how to tune into BOTH the 25kHz spaced frequencies and the 8.33kHz spaced channel numbers.

Always ensure that your radio is showing the numbers on the display and match the identifier for the ATC unit you are talking to. ■

# AOPA NEWS

General Aviation news from around the world

Panshanger  
looking to come  
back to life



## PANSHANGER REACHES FIRST MILESTONE

*First step in saving the airfield has been reached, according to owners*

by **Lucy Field**

Two months ago, Panshanger launched 'Project Phoenix' – a crowd funding project to save the airfield. Since its launch, the project has reached its first target of raising £10,000.

Panshanger was closed in 2014 after operating continuously since 1940. The aerodrome falls under the Welwyn and Hatfield council and is in their Local Plan for a housing development, with a little mention about the possibility of reopening the airfield. There is on-going

talks with the Government planning inspector to see if this is viable and sound.

Project Phoenix was set up to inform the public about the situation whilst also demonstrating to the Council the strong support for the reopening of the airfield within the local and aviation communities.

“Since the launch, we have been exhibiting at local shopping centres such as the Howard Centre and the Galleria, and the response has been overwhelming from the local public, with neighbours stating that they

miss the planes and want their airfield back,” says Sue Hart, the Campaign Manager of Project Phoenix.

“We have also been at key aviation industry events such as the Royal Aeronautical Society conference on the future of UK airfields and at the Historic Aircraft Association, where committed aviators have also shown their support and made significant donations to the project.”

There has also been support from the likes of Carol Vorderman and MP Grant Schapps. “There are many

hurdles to overcome, and it will require the goodwill and support of many organisations, including the local council, but people power can help ensure that Welwyn and Hatfield isn't just somewhere to live but a community that is proud of itself and looks confidently towards its future, where youngsters will continually be inspired and believe that the sky is the limit,” said Schapps.

For more information on Project Phoenix, and to sign the petition or to donate to the cause, visit [www.project-phoenix.org.uk](http://www.project-phoenix.org.uk) ■

# DRONES INVITED TO 'SHARE THE AIR' EVENT

by **David Rawlings**

The CAA recently hosted an event at Compton Abbas airfield as part of campaign around safe sharing of the skies between drone users and the GA community.

The event, which sold out in just three days, was run as part of the CAA's 'Share the Air' campaign. Alongside the staff of Compton Abbas airfield, the event played host to several experts from across the sector:

The CAA was available to provide the latest information on the UK and European regulations covering drones. The airfield team also explained the range of GA flying opportunities that exist in the local area, enabling drone users to expand their love of flying.

Jonathan Nicholson, Assistant Director of Communications at the Civil Aviation Authority (CAA) commented: "Drones being the latest 'must have' in tech, we've seen a huge spike in drone ownership across the country. What's vital now is that we ensure everyone

using the air shares it safely.

"If you have a drone but are unsure of where to fly it safely or you want to know how to get the most out of your new bit of kit then these events are for you."

For drone users that means following the Dronecode at [www.dronesafe.uk](http://www.dronesafe.uk). ■



Drones are using a significant share of UK airspace

# UK LICENCING GETS A MAKEOVER THANKS TO CAA

by **Lucy Field**

UK pilots applying for a licence or rating will soon benefit from a new streamlined process, the UK Civil Aviation Authority (CAA) said. From early December, commercial

pilots will be able to make applications via a new online 'e-Licensing' system, and then track its progress through a personal portal account. In addition, pilots who need to apply in person at the CAA's HQ will be able to book dedicated time slots.



The new e-Licensing for commercial pilots now available

The new services are part of the CAA's plans to update the licensing system for the UK aviation industry. e-Licensing will go live early December 2017 for commercial pilots, with a service for private licence applications due to follow next year.

As well as the introduction of the e-Licensing portal, the counter service at the CAA's Gatwick office will also change. A new fast-track appointment booking service will be available from 11 December, replacing the current same-day counter service. The new service will allow licence holders to book an appointment time-slot up to one month in advance. Appointments can be made via a dedicated phone line 0330 022 1922. ■

## LOOK BACK... THIS MONTH 324 YEARS AGO



### MANNED HYDROGEN BALLOON FLIGHT

Jacques Charles and two French brothers Anne-Jean and Nicolas-Louis Robert worked together to become the first people on 01 December 1783 to pilot a manned flight in a hydrogen-filled balloon. Professor Jacques Charles and the Robert brothers launched the new manned balloon from the Jardin des Tuileries in Paris, amid vast crowds and excitement. The balloon was held on ropes and led to its final launch place by four of the leading noblemen in France. Charles was accompanied by Nicolas-Louis as his co-pilot hydrogen-filled balloon. The envelope was fitted with a hydrogen release valve and was covered with a net from which the basket was suspended. Sand ballast was used to control altitude. They landed at sunset after a two hour flight, covering 36km. The chasers on horseback held down the craft while both disembarked. Charles then ascended again, but alone because the balloon had lost some hydrogen. Charles then saw a second sunset – unlike the Robert brothers, he never flew again.

**AOPA NEWS HIGHLIGHTS****FATTIES BEWARE**

In a tweet, Finnair announced that they are asking passengers to be voluntarily weighed before flights. The airline assures passengers that they're not preparing to charge more for larger passengers. "For us, this has nothing to do with ticket pricing or anything like that," says Päivyt Tallqvist, director of communications at Finnair. The Scandinavian carrier wants the data to make their weight and balance calculations more accurate.

**ICON GETS PRICIER**

Icon Aircraft told deposit holders that prices would be going up about 30% for a base model and more than 50% for a fully loaded aircraft. A new 2018 Icon A5 is going to set buyers back \$389,000. While Icon has published a 2018 base price of \$269,000, the company warns deposit holders that "only fully loaded A5 models will be delivered in 2018," so those hoping for a basic model will have to wait until at least 2019. In 2008, Icon offered the two-seater for \$139,000.

**GA NUMBERS UP**

GAMA released its figures for the Q3 of 2017 and it states that shipment and billings for General Aviation aircraft is up. GA shipments increased by 1.7% and rotorcraft shipments increased by 7.7%. Plane billings, however, declined slightly to \$13.2b, a 2.8% decrease compared to 2016, while rotorcraft billings increased by 8.8%.



Muroya claims the World Championship

# MUROYA WINS AIR RACE WORLD CHAMPIONSHIP

*The Japanese legend takes the title and makes history*

by David Rawlings

Yoshihide Muroya took the first world title for Japan, in Indianapolis in the Red Bull Air Race after an eight-race long season.

Martin Šonka of the Czech Republic earned second overall and Pete McLeod of Canada took third.

The season finale was heartstopping from the very beginning, with Šonka and Muroya, ranked one and two in the standings, going head to head in the Round of 14. Flying first, Muroya's championship hopes seemed to be over when he incurred a two-second penalty – but in strong winds Šonka hit a pylon for a three-second penalty, advancing the Japanese hero to the Round of 8. Two other pilots vying for the World Champion title, Pete McLeod and Kirby Chambliss

(USA), also stumbled in the opening round, but Muroya still couldn't rest, as Šonka advanced after all, as the round's fastest loser. There, first to fly with everyone on the line, Muroya was fearless, flying to a new track record of 1:03.026 that 2016 World Champion Matthias Dolderer of Germany and Spain's Juan Velarde couldn't match. The pressure all was on Šonka. The Czech pilot flew cleanly, but with a technical issue plus a wing stall in the Vertical Turning Manoeuvre (VTM), he could manage only 1:07.280, and both the race win and Asia's first Red Bull Air Race World Championship belonged to Muroya.

As the race awards were handed out in the iconic infield of the Indianapolis Motor Speedway, Muroya was joined on the podium

by Dolderer in second and Velarde in third. Then, when the World Championship trophy was presented, Muroya was sprayed with champagne by Šonka and McLeod, who stood on the overall podium for the first time themselves with second and third place overall, respectively.

"This is an amazing chapter for motorsports to win a race here. It was the tightest championship ever with the four of us close right up until the end. We were behind at the start of the season, so it was the long way and the hard way, but we made it," said Muroya as he held back tears.

"I thought the timing was broken when I saw my time in the Final 4, so something was pushing me quite a lot. That was the fans, my family and my team, so thanks to them for making it happen." ■

# CAA FINE ILLEGAL BALLOON PILOT

by **Lucy Field**

A commercial hot air balloon pilot who continued to fly passengers, even though he no longer held a valid pilot's licence, has been fined and ordered to pay costs, following a successful prosecution by the UK's CAA (Civil Aviation Authority).

In February 2015, Michael Simon Jennings underwent a statutory medical examination, by an Aero-Medical Examiner (AME) to

obtain a medical certificate, which is required to validate his pilot's licence. He was found to have increased blood pressure and put on weight since his last medical and so a certificate could not be issued.

In accordance with the CAA's guidance, the AME sought further information from Mr Jennings' GP, who confirmed a high body mass index and raised blood pressure.

In April 2015 Mr Jennings passed a flight test and

was issued with a medical certificate, under the proviso he supply his AME with proof of continued weight loss to ensure he was fit to fly.

Between April 2015 and July 2015, despite numerous prompts, Jennings failed to provide any information indicating weight loss.

In July 2015 the AME informed the CAA, and Mr Jennings' medical certificate was suspended, which immediately suspended his pilot's licence. Despite being informed of this, Mr Jennings

continued to fly passengers.

Mr Jennings' offences came to light when he attempted to renew his medical certificate with a different AME.

Appearing at Swindon Magistrates' Court, Mr Jennings admitted two counts of acting as a pilot of a hot air balloon flight without being the holder of an appropriate licence in contravention of the Air Navigation Order 2016.

Following his guilty pleas at court, Mr Jennings was fined £1,500. ■

# CITY AIRBUS ON FOR MAIDEN FLIGHT

by **Robert Care**

Airbus Helicopters has recently completed the first full-scale testing for the propeller-and-duct system of the CityAirbus demonstrator – a multi-passenger, self-piloted electric VTOL vehicle designed for urban air mobility. During this testing phase, the CityAirbus team checked the individual performance of the system, powered by Siemens.

CityAirbus is a battery-powered air vehicle. It is designed to carry up to four passengers over congested megacities to important destinations

in a fast, affordable and environmentally friendly way.

"We now have a better understanding of the performance of CityAirbus' innovative electric propulsion system, which we will continue to mature through rigorous testing while beginning the assembly of the full-scale CityAirbus flight demonstrator" says Marius Bebesel, CityAirbus chief engineer.

The full-scale demonstrator will be tested on ground initially in the first half of the coming year. The first flight is scheduled for the end of 2018.

In the beginning, the aircraft



The City Airbus is on schedule for its maiden flight

will be remotely piloted; later on a test pilot will be on board.

CityAirbus will carry up to four passengers on fixed routes with a cruising speed

of 120kmh. It will be initially operated by a pilot to ease certification and public acceptance, paving the way for fully-autonomous operations. ■



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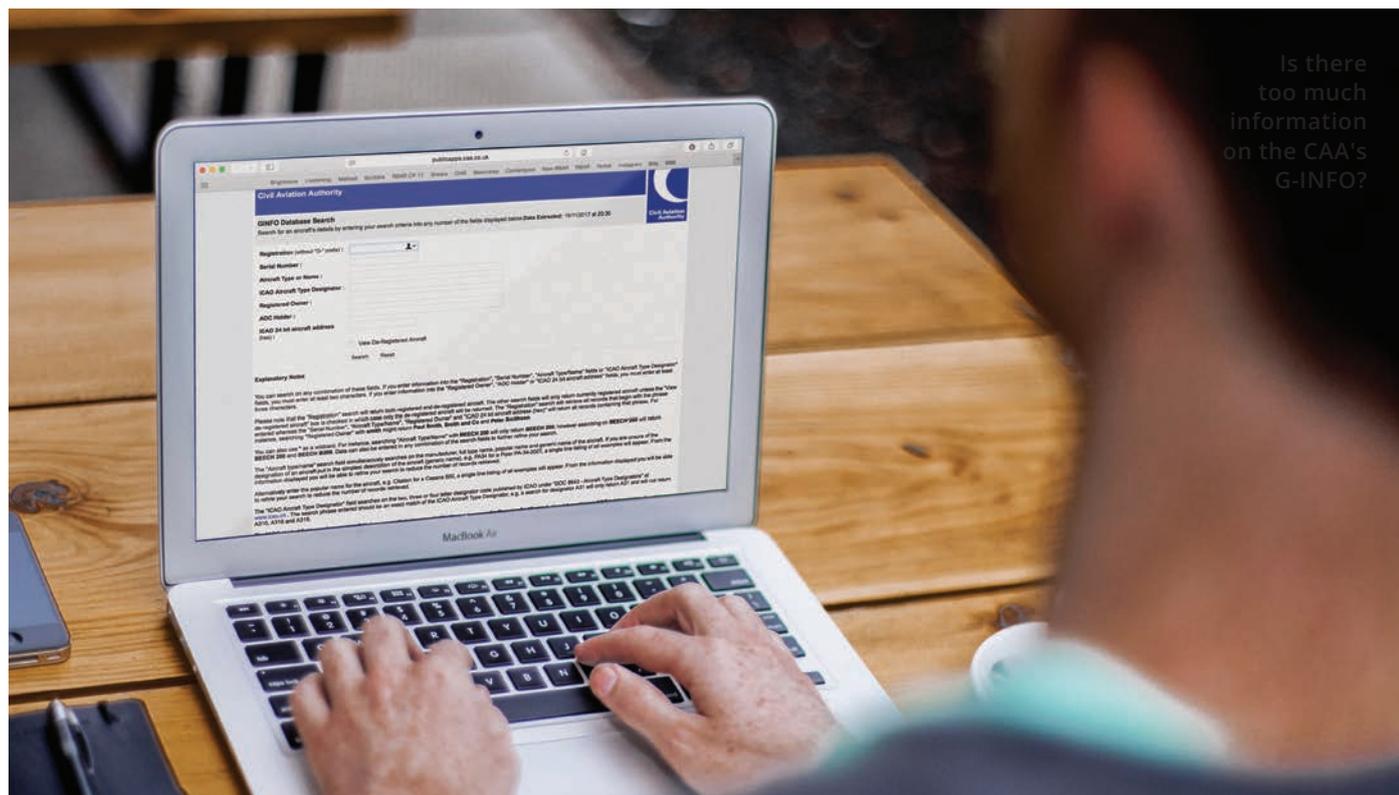


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Is there too much information on the CAA's G-INFO?

# IS THERE TOO MUCH DETAIL ON G-INFO?

*AOPA's CEO addresses concerns on the amount of info available on the CAA's website*

by **Martin Robinson**

Members have expressed concern about the level of detail available on the G-INFO database, primarily the Registered Owner Details, giving an opportunity for identity theft, identifying aircraft location and data protection concerns.

I have raised this with Tony Rapson, Head of the CAA GA Unit, who has advised: "The CAA is responsible for maintaining the UK Register of Civil Aircraft in accordance with the Air Navigation Order. The ANO details what information must be held against each aircraft and this includes the name and address of the registered owner of the aircraft. The CAA is also required by the Civil Aviation Authority Regulations 1991

to make the UK Register available for inspection by any person. As the CAA is required by an enactment to make the Register available for inspection it is exempted from the usual non-disclosure provisions of the Data Protection Act 1998.

"We do publish additional information on G-INFO, such as C of A expiry dates, that is not covered by the CAA Regulations, but none of this is of a personal details nature and is therefore not in conflict with the DPA.

"We also refer to the public nature of the data on the application form and also in the guidance on our website. Incidentally, we do not insist on applicants using their private address. An alternative address or a PO Box is acceptable."

I have discussed this

further at my most recent one-to-one meeting with Tony Rapson. The CAA are not considering any change to the G-INFO database, though would listen if there are genuine concerns about the open nature of the information publicly available.

In order to be able to demonstrate to the CAA there is a level of concern,

I need a Registered Aircraft Owner to let me know, including; the basis for your concern, what level of detail should be available and how the CAA should control access to information. May be if the CAA had the same approach as the DVLA the concern would be less. Tell me what you think: martin@aopa.co.uk ■



Private addresses can easily be found on G-INFO

# THERE'S STILL TIME TO GET APPLICATIONS IN FOR 8.33

by **Martin Robinson**

The second call period for 8.33kHz radio funding ended on 30 Sep 2017; however, the third period is now open until 31 Dec 2017 and there is plenty of funding available! Some points from the CAA:

There have been some who have said that they will still use their 25kHz radios once 8.33kHz becomes obligatory. We understand that the UK has no intention of introducing any extension or derogation towards 8.33kHz requirements at this time; the UK situation is as follows: On 01 January 2018 the law changes and all aircraft operating in airspace that requires the carriage of a radio must have 8.33kHz-compatible equipment fitted.

After this date all 25kHz radios can no longer be used, although it will probably still be possible to receive most ATIS and VOLMET broadcasts on a 25kHz radio and to keep it as a 121.5MHz back-up, it will not be legal to use it for transmissions except on frequencies assigned for:

- The emergency frequency (121.5MHz)
- The auxiliary frequency for SAR operations (123.1MHz)
- The VHF digital link (VDL) frequencies (136.725MHz, 136.775MHz, 136.825MHz, 136.875MHz, 136.925MHz and 136.975MHz)
- The aircraft communications addressing and reporting system (ACARS) frequencies (131.525 MHz, 131.725 MHz and 131.825 MHz)



**Don't miss out on funding for your new 8.33 radio** *Extra*

- Where offset carrier operation within a 25 kHz channel spacing is utilised.

This means that all GA aircraft fitted with radios (including handheld) must comply with this change to UK law to maintain safe

communications with ground stations.

So the moral of the story is: if you haven't yet planned your 8.33 kHz compliance programme, you should do so as soon as possible! See the CAA website for more info. ■



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WORDS AND IMAGES Angus Clark

# VISITING LESSER KNOWN PARTS OF EUROPE

*Angus Clark had two events to attend a week apart; one in Finland, the following in Switzerland. What was he to do? Go on tour of course...*



WROCLAW, POLAND: My Robin with some stunning Antonovs in the background



WAŁBRZYCH, POLAND: The picture-postcard Książ Castle

**T**he International Fellowship of Flying Rotarians (IFFR) is a group of aviation-minded members of Rotary.

Membership spans the globe. There are national sections in many countries of the world. Each section organises meetings to which the members of other sections can join in with. My wife, Alisma, and I are fortunate to be members of the UK Section. When European sections have held events on successive weekends we have often attended them both and gone touring in the intervening week.

This year the Scandinavian Section was holding a meeting in Finland and five days later the Swiss section was holding a meeting in Lausanne.

This presented an excellent opportunity for another flying tour. But where would we go?

Our route to Finland would take us over Holland, Germany, Denmark and Sweden. We therefore looked for an easterly route after the Turku meeting. We had visited Latvia and Lithuania in 2013 (AOPA UK Magazine April 2014) so this time we would over fly them. We firmed up on stopping off in Tallinn, Estonia and Wroclaw in southern Poland before joining

the Swiss for their meeting.

The weather was decidedly murky when we started out from Netherthorpe and we were quickly into IMC. We broke cloud when we reached the North Norfolk coast twenty minutes later. We then had a clear one hour run over the sea to De Kooy and the Den Helder VOR. On leaving the De Kooy area we were handed over to Dutch Mil. who confirmed that the military exercises notified by NOTAM were underway. That required a descent to below 1200ft which is not a issue over flat Holland. To reinforce the need for this, a fast jet almost immediately

swept around us. Shortly after crossing the German border we landed at Wilhelmshaven.

After lunch we set off on the 360nm leg to Kalmar in Sweden where we were to spend that night. The flight over northern Germany, eastern Denmark and southern Sweden was a sheer delight with clear skies and tail winds all the way. The next morning we had 330nms to cover to reach Turku. Here again the winds were in our favour.

#### **INTO FINLAND**

Turku was an inspired choice for the Scandinavian meeting. The city was founded at the



WAŁBRZYCH, POLAND: The underground tunnels at Ksiaz Castle



SOKOLOV, CZECH REPUBLIC: stunning views were common on our route



CORSIER SUR VEVEY, SWITZERLAND:  
Charlie Chaplin welcomes us to Chaplin's World



FINLAND: Southern Finland on our way to Tallinn in Estonia

end of the 13th century, making it the oldest city in Finland. It was the country's capital until Finland became part of Russia at the beginning of the 19th century. The country achieved its independence from Russia in 1917 so this was its centenary year. Central to the history of the city is the castle, which was founded in the late 13th century. The visit to what is the largest surviving medieval building in Finland was a highlight.

On the Sunday morning, we took off with the cloud level at no more than 1500ft but this was of little consequence given the flat landscape. Finland is known as the land of "A Thousand Lakes". We passed quite a few before we reached the southern coast. The sky, by then, had cleared giving a pleasant flight across the water to Tallinn. Tallinn Radar gave us a "26 right, downwind" join. We then had one of those "where's the camera?" moments as we flew directly over the Old City at little more than a 1000ft. The churches, the narrow streets

*"The churches, the narrow streets and market places stood out in sharp relief. Tallinn has been described as the most preserved medieval city"*

and market places stood out in sharp relief. Tallinn has been described as the most perfectly preserved medieval city – from the air it certainly merited that accolade.

We had chosen a hotel just outside the Old City walls. In the afternoon and evening we meandered through the narrow streets and squares. The churches were outstanding. The Andrew Nevsky Orthodox Cathedral stood out from the rest by virtue of the sheer grandness of its decoration. We also climbed the 220ft bell tower of, what is the oldest church in Tallinn, St Mary's Cathedral. The Old City was a place of real character which was worthy of much more time than we had.

Next morning it was off south routing by way of Estonia, Latvia, Lithuania to Poland. 45 minutes after takeoff we were over Latvia. An IFR member in Latvia had warned me that since Mr Putin had begun to flex his muscles, VFR flying in Latvia had become more restrictive. I had made a point

of using only IFR waypoints on all our VFR flight plans. This may have contributed to us having no difficulties whatsoever on our entire journey. The controller at Riga gave us clearance at FL75 directly overhead the airport there and twenty minutes later we were into Lithuania.

On our hour's flight over the flat lands of Lithuania we could see the Soviet enclave of Kaliningrad. This is a legacy from a settlement following World War II, which ensured that Russia had sea access to the Baltic. We were then in the familiar Mazurian Lakes area of Poland having been there in 2013. Our refuelling stop was Olsztyn Mazury. This was a delightful, newly created, civilian airport although its military history went back to World War II. The only two flights of that day, one to Oslo and the other to Luton, had left – yet we were given the full works by the amply resourced security staff. We were even given boarding passes to get back on board our own aircraft!

The stunning  
architecture of  
Turku at the  
southern point  
of Finland



Having said that, the welcome we received and the service we were given was outstanding. 45 minutes later we were off to our destination of the day, Wroclaw, in southern Poland.

**WONDERFUL WROCLAW**

My reason for wanting to visit Wroclaw will soon become apparent. I had identified an aero club airfield, Szymanow, not far from the city's outer ring road. I wrote to the airfield in Polish, thanks to Babel Fish. I had had a positive response so we had no concerns about landing there. The grass airfield is true air sports centre with a flight school, gliding, and parachuting. The last two were operating when we approached. We had telephoned ahead from Olsztyn so they were expecting us. After only a little hesitation following my initial radio call there was an English speaking voice on the radio giving the joining instructions. We had a very friendly greeting.

The old city market square was a lively place that evening partly because the following

day, Assumption Day, was a national holiday. The square is an absolute gem. At over nine acres it is one of the largest in Europe. Due to its almost total destruction in World War II, all of the buildings are a painstaking 20th Century reconstruction of their predecessors. The buildings around the square were built in different styles, ranging from Art Nouveau to Gothic. The Old Town Hall, the New City Hall, bars, restaurants and numerous houses occupy the middle of the ring that surrounds the square.

So was this the only reason that we wanted to visit Wroclaw? No! The rumours of the Nazis hiding a train laden with gold are well known. This is supposed to be located near Walbrzych some 50 miles to the south of Wroclaw. We were not, however, train hunting but castle visiting. Near Walbrzych is Ksiaz Castle, an amazing pile! Its history goes back all the way to the 13th Century with a fortress built on the site. Its first centuries

*"The square is an absolute gem. At over nine acres it is one of the largest in Europe. Due to its almost total destruction in World War II, all of the buildings are painstaking reconstructions"*

were marked by a number of stormy events. In the 18th Century a major reconstruction took place. These included a distinctively Baroque extension, a courtyard, outbuildings, baths and a library. A pavilion was also constructed which became the family mausoleum in the second half of the nineteenth century.

It was the early 1940s that particularly interested me. In 1941 the Nazis confiscated the castle. Intensive works were then carried out on what was meant to be one of Hitler's main quarters. During this time, underground tunnels were dug below the castle. Historians have various opinions as to what purpose was intended for the land beneath the castle as well as the tunnels which were dug at the same time in the nearby Owl Mountains. Towards the end of the War the Nazis fled the Castle, looting it as they left. They were followed by the Russians who continued the looting. After the War the plundering continued until the 1970s when it was protected and the restoration began.



WROCLAW, POLAND: The Przejscie statues rising from the street



WROCLAW, POLAND: Alisma, my wife posing in front of our trusty steed.

The result is that, while much good work has been done, the rooms are almost devoid of any of their original contents. That said, detailed attention has been given to the restoration of the rooms themselves. Only guided tours are allowed into the tunnels, and they're in Polish. Fortunately there was an English language app that I had downloaded before leaving home. This proved invaluable as it guided us from room to room. But what about the tunnels? We were not going to come this far and miss out. I kept a lookout for a possible entry point.

I then saw a rather insignificant door with a sign in Polish, English and German. It made no mention of tunnels but read "Entrance only with guide". Simple – wait until a group comes; tag along at the rear. In truth we saw only a section of the first level of the tunnels. Linked to this, and not part of the tour, is a second level 175ft beneath the courtyard containing a complex of four tunnels and four large chambers.

#### HEADING HOME

Next day we had planned to fly to Memmingen or "Munich-West" as some of the budget airlines describe it. Unsurprisingly, Munich is some 72 miles away! The weather was not good in the morning. Thunderstorms were moving through south of us to the east. Eventually the weather on the route over the Czech Republic and eastern Germany was satisfactory. What we were missing, due to a lack of airfields, were up to date met reports for south western Poland. This was further complicated by an internet breakdown. I had to rely on the forbearance of those at Szymanow to tether to their iPhones. We took off in mid-afternoon. It was clear that conditions were not as good as they looked from the ground. The clincher came when the Poznan controller advised me that the hills in southern Poland were covered in cloud. We returned to Szymanow.

The following morning, after early fog had cleared,

*"We had a very pleasant run down over Lake Neuchatel before heading south east to land at Lausanne"*

we were on our way. We had 350nms ahead of us to get to Memmingen. It was a particularly interesting flight. Initially over southern Poland, and from there it was over the western Czech Republic to Germany. In both countries we had to fly around active Restricted Areas.

Crossing the Swiss border we went to the west of the country to avoid the higher ground. We had a very pleasant run down over Lake Neuchatel before heading south east to land at Lausanne. Here we were greeted by the organiser of the Swiss weekend – a weekend that was brilliantly varied. It included a city tour, a University visit, a visit to the Olympic Museum, a tour of Charlie Chaplin's former home and more. The homeward journey from Lausanne was simple with a direct route to Calais to clear customs. It was then back to Netherthorpe.

In the 12 days, we had covered more than 2,800nms with tail winds most of the way. Where to next is the question! ■



WROCLAW, POLAND: The old town hall at night – simply stunning!



LAUSANNE, SWITZERLAND: The approach to the airfield



The Extra EA-330LT, an aircraft that can go cross country, but can also go full aerobatic

# The Gentleman's aerobatic aircraft

WORDS Robert Care IMAGES Extra Aircraft

*The Extra 330LT has all the luxury of a cross-country aeroplane, but make no mistake there's a lean, mean aerobatic machine hiding behind the swish avionics and leather seats...*



**E**xtra is not a new name in aircraft manufacturing. It has been around for more than 30 years, ever since Walter Extra flew a modified Pitts in the World Aerobatic Championship, subsequently realising improvements could be made to competition aircraft.

Extra has had several incarnations over the years, but around eight years ago it launched the single-seat fully aerobatic 330SC. The company took this all-out competition aircraft and decided to build a two-seat version, the LC, and finally in 2010 announced the luxury two-seater that does a bit of everything – the 330LT.

The LT is said to be a 'gentleman's aerobatic aircraft'. It boasts leather seats and comes with Aspen and Garmin avionics. A pure aerobatic pilot wants none of this weight or comfort.

The LT also benefits from an A-symmetric wing, which produces more lift and gives it more stability in the air. "If the mission profile is from A-B and you're on a cross country trip then the aircraft is very fast with max 205kts true airspeed or 190 kts at 75%," explained Christian Hochheim EO of Sales and Customer Support at Extra Aircraft. "That speed makes it the world's fastest non-turbocharged piston engine aircraft. It's also comfortable due to the A-symmetrical wing, which offers a more secure lift-off. But the LT is still able to do a full aerobatic programme. It's a lot more relaxed, and is not as aggressive as the LX or SC," he added.

#### BACK TO THE START

Extra has been in business for more than 30 years. Walter Extra flew a modified Pitts Special in the 1980 World Championship and decided to design a high-performance

*"Due to the A-symmetrical wing you have a secure lift off. But the LT is still able to do a full aerobatic programme"*

monoplane with an optimum structure and weight. A year later he had built the 230, with a wooden wing, four-cylinder 230hp engine and a two blade propeller. Since then Extra has gone on to build more than 700 aircraft, including the six-seat Extra 400 and 500 – this makes Extra the most successful German aircraft manufacturer since World War II.

Extra is selling aircraft across the globe, with two dealers in the US, and agents in many other countries. The agents are well known in the aerobatic world, such as Mark Jefferies in the UK and Nigel Hopkins in South Africa. All aircraft are built and tested in Germany, before being flown or shipped in a container to their new owners.

The current range also includes the LX, the company's two-seat fully aerobatic aircraft. Testament to the strength and ability of the 330LX is that it is used in the rookie class of the Red



It looks fast, even when it's on the ground. The LT has a max cruise speed of 205kts

With an ability to go +/-10g the 330LT is a truly versatile machine



## ABOUT MIRCO PECORARI

Mirco has worked with Extra for many years, designing the company's standard paint schemes that change every two years. He also works with owners who want a unique design. Away from Extra, Pecorari has designed schemes for many different aircraft, including those in the Red Bull

Air Race, L39 jets and more. His office is based in Modena, the design-savvy home of Ferrari and Lamborghini. "My passion has always been imagining unique flying forms and making aeroplanes beautiful. This led me to create thousands of drawings during my life. I started

publishing part of my collection with the nickname of McPecos several years ago. I couldn't be anything but an aircraft designer, so my passion became my work. My sketches took life in hundreds of liveries, aircraft and scale models," Pecorari says.



Bull Air Race where between six and nine pilots use three planes over a weekend – they get used more than another aircraft in the series.

The wing of the LT can also trace some experience in the Air Race. The wing has a long history: "It started even before we were designing a plane to be used in the Red Bull Air Race. The series was going to be like Formula One, with different manufacturers, but aviation isn't like the automobile market. Companies don't sell thousands of planes. We designed the 300SR which had the A-symmetrical wing.

This meant that the plane could fly the turns much tighter. The Edge was quicker in a straight line, but in the turns, the Extra would catch up. But then the air race changed the rules and took out the tight 180-degree turns so we'd lost our advantage," explained Hochheim.

Extra then decided to concentrate on their own projects, learning a lot in the process, and developing a new wing that found its way into the LT.

**AVIONICS**

Compared to most purebred aerobatic aircraft, the

*"Extra offer Aspen and Garmin cockpits, which will take the LT pretty close to an IFR aircraft"*

**Below: Leather seats and Germin avionics makes the LT much more than your full-on aerobatic aircraft**

avionics in the LT are very sophisticated. Extra offer Aspen and Garmin cockpits, which will take the LT pretty close to an IFR aircraft. It is a day VFR aircraft, but Extra are not selling it as an IFR aircraft, due to the certification process. And taking into consideration the redundancies required, the aircraft would become too heavy and lose some of its performance. But it has all the bells and whistles to make this possible.

"You have to decide what road you want to go down and We didn't want to take away the performance of the aircraft. You wouldn't buy a sports car and then tow a trailer full of equipment in it to make it legal." So the LT is a VFR aircraft, but has the ability to get out of trouble, if needed! It also has a luggage compartment that can be accessed from the exterior of the plane, something rarely seen in aerobatic aircraft.

**LET'S TALK MONEY**

The price range for Extra's three aerobatic aircraft range from €330,000-€360,000 (plus tax) – prices vary, depending on options. "We have sold one for almost €400,000 because of all the extras the customer wanted on it," explained Hochheim. "We can talk about a radar altimeter and stuff like that, but it's not meant to be in an aerobatic aircraft. We can do it if the customer wants, but we'd rather not."

All Extras come with a standard paint scheme, which is redesigned every two years. Buyers can also design their own paint scheme, but they are rarely suitable or have the finesse of a designer's eye. This is why Extra offers a third option – the services of famous Italian aircraft designer, Mirco Pecorari, of Aircraft Design Studio. Here, Pecorari creates a bespoke service... which does come with its own significant price tag.





Powered by a hand-wound version of our Calibre SH21 movement, the **C8 Power Reserve** introduces this complication for the first time – when fully wound, the decorated twin barrels provide an incredible five days of power. Meanwhile, the black DLC case and altimeter-inspired date calendar match that practicality with stunningly innovative design.

 Christopher Ward

[christopherward.co.uk](http://christopherward.co.uk)

A Lycoming engine powers the LT and offers fantastic performance



**DISPELLING OLD MYTHS**

"It's a little bit difficult to say where our aircraft customers come from," says Hochheim. "There is the type of customer who is flying in a Cessna or a Cirrus. They have experience, but they want to get into aerobatics. But they also want to have an aircraft where they can fly from A to B. Then there is the other type of pilot, who might fly IFR and VFR, and they might want to get into pure aerobatics – they will most likely go for the SC."

There is an old adage saying about Extras: 'once you become a gifted aerobatic pilot then you can get into to an Extra.' This is an adage that has been relegated to the past by Extra's current range of aircraft. "You could get your PPL in an Extra," said Hochheim. "For a beginner it's best to learn in a typical trainer, because these are built for that purpose, but once you've passed you'll have no problem flying an Extra."

"What makes an Extra an Extra is that the aircraft does what the pilot tells it to do. This has been the opinion of Walter Extra since he started the company."

"This gives us two things, it means that we have a top competitor aircraft where the pilot can focus in other things and follow it through. This is because they are not worried about having to force the aircraft into doing something it doesn't want to do. As you can see, the SC has been out for several years now and it has won the World Aerobatic Championship five times. And this is due to the aircraft being straightforward to fly without any idiosyncrasies."

On the other hand the stability of the aircraft makes it perfect for the beginner; if you screw up a manoeuvre, you just put the stick in neutral, power out and the aircraft recovers. So it makes it a good learning aircraft. It's a very competitive aircraft but also very forgiving. So you

*"What makes an Extra an Extra is that the aircraft does what the pilot tells it to do"*

can cover the whole range of aerobatic pilot from beginner to unlimited.

The structure of the aircraft has remained the same for many years now. "We believe in the steel tubular fuselage in our aircraft. A lot of other companies are fully carbon, but we see there is more safety in the tubular frames that can't be replicated in carbon. There will be in the future, but what's out there right now isn't. When you bend a tube, it absorbs energy but it's still a tube, but when you crack carbon, it's gone. With carbon, you are gaining a lighter aircraft, but losing safety and this is something we are not ready to go with. Our customers are more than customers, they're part of the family – so we don't want to compromise that safety."

The Extra has proved extremely popular worldwide and is used by many display teams, such as the Blades in the UK and the Royal

Jordanian Falcons to name just two. In Fact Extra is building new aircraft for the Falcons right now. "The LT is very good display aircraft. It's good for those that don't now about aerobatics – if you had the faster moving aircraft it would be too quick to understand what's going on. You'd want to see the slower, smoother gentleman's aerobatics. It's easier on the eye and the LT is perfect for that."

Also the LT is perfect for the upset recovery training that is becoming mandatory for airline pilots. Etihad Airways are using it for such on a daily and high professional basis. "We call the LT the gentleman's aerobatic aircraft – but make no mistake, the aircraft still performs +/- 10g, but you don't have to fly it like that. People always say you can drive a Ferrari at 200mph, well yes you can, but you don't have to. It's the same in the sky. That's why we put the power lever in the aircraft!" ■

**TECH SPEC EXTRA 33LT****PERFORMANCE**

**Engine** Lycoming AEIO-580-B1A  
**Propeller** MTV 9-B-C/C198-25  
**Vne** 220kts  
**Max Cruise** 205kts TAS  
**Manoeuvring speed (Va) (acro)** 158kts  
**Stall speed at 1.808 lbs/820 kg (Vs)** 60kts  
**Stall speed at 2.095 lbs/950 kg (Vs)** 65kts  
**Maximum Roll Rate (degs./sec.)** 270  
**Range (with VFR reserves)** 580nm/1074km

**DIMENSIONS**

**Wingspan** 26.3ft/8.0m  
**Length** 23.0ft /7.01m  
**Height** 8.8ft/2.6m

**WEIGHTS**

**Empty weight** 1,493lbs/677kg  
**MTOW normal category** 2,095lbs/950kg  
**MTOW two-pilot acro** 1,918 lbs/870kg  
**MTOW single-pilot acro** 1,808lbs/820kg





WORDS Alan Cassidy IMAGES Various

# AEROBATICS - COMPETENCE, CERTIFICATES AND THE RATING

*If there is one thing Alan Cassidy knows, it's aerobatics. Here he explains what you need to ensure you're safe in the skies when practicing...*

Organised  
aerobatics where  
you can validate  
your skill level

**I** have been involved in aerobatics for many years now. I began flying aerobatics in the late 1960s, testing my precision in competition since the mid-1980s, proving quite successful whilst doing so. I have also been teaching other pilots to fly better aerobatics for more than 25 years.

For most of this extended period, there has been relatively little legislation or formal structure to the way in which aerobatics has been taught. What legislation existed in the earlier days was primarily concerned with telling you where not to perform – over built-up areas, for

example – rather than defining levels of competence.

To this day, legislators have great trouble defining what “aerobatic flight” actually is. There have been attempts at definition that relate to exceeding certain angles of bank or pitch, and more recently in EASA to suggest that aerobatic flight consists of abnormal attitudes not needed for normal flight. Of course, there is no definition of “normal”!

However, the purpose of this article is not so much to point out deficiencies in the regulations – easy as that may be – it is to bring to the reader’s attention the more helpful documentation that is available to them should they

*"This article is not so much to point out the deficiencies in the regulations – as easy as that may be – it is to bring to the reader's attention the more helpful documentation that is available"*

decide, having learned enough basic handling to get a PPL or an ATPL, that they want to continue to learn more and varied flying techniques during their piloting career.

#### **THE THIRD DIMENSION**

Flight is about getting off the ground. Commercial flight is about long-range transport, predominantly level but occasionally diverging from level by about 10 degrees up and 3 degrees down.

Aerobatic flight is about safe exploitation of the third dimension with unlimited freedom – something enjoyed, throughout most of recorded history by only the birds. It has wanted to be explored by man since the beginning of aviation.



Aerobatic pilots  
always want to  
improve and learn  
something new

## THE FIRST MANOEUVRES

Decades ago there was a gap in Civil Air Publications that meant no guidance in aerobatics was available from "the Authority", just certain prohibitions. Happily, AOPA published a training syllabus that would lead to the issue of a Certificate that qualifying aerobatic pilots could frame and hang on their wall.

This was a good start. However, there is a flaw in any system, where safety is paramount, that says "Yes, now you can do it!" when in fact it should say: "Well, now you know a bit about it and can safely repeat certain things on your own, but this is a very big subject and you only know a fraction of it, so be very, very careful and try to learn more".

Spotting this gap – the potential to generate complacency or even life-threatening over-confidence – some years ago I wrote for AOPA a further series of training syllabuses that would take the aspiring aerobatic pilot up through a few more levels of competency in a structured manner.

## FURTHER DEVELOPMENT

Thus, now available from AOPA are a series of syllabus documents that cover "Basic", "Standard" and "Intermediate" level aerobatic training, and an

equivalent series of certificates to hang on your wall. All three of these are available to purchase on the AOPA website as either a PDF copy (£10 for each syllabus) or a printed version (£15 for each syllabus).

The purpose of "Progressive Aerobatic Training" is not just to collect certificates, however, but to put firmly into our pilot minds that we never know it all.

To fly aerobatics safely, we must always be aware of our own limitations, as well as those of the aircraft. There is always more to learn, and there is help out there to enable you to climb the ladder and fulfil your wildest dreams with regard to aircraft handling skill – exploiting the third dimension like a bird – and to do it safely.

This continuum of documentation and certification is deliberately made congruent with the structure of competition aerobatic flying at increasing levels of complexity. If you really want to get any external validation of your particular skill level, then this can only be gained by doing your best in front of a critical, but knowledgeable, audience and panel of judges. These can be found at an organised event – of which there are many around the United Kingdom and further afield.

*"Aerobatic pilots are those always on a mission to learn something new, to enlarge their mental capacity and improve their situational awareness"*

## STAYING SAFE

To fly aerobatics in command of an EASA aeroplane from April 2018, the Aerobatic Rating will finally be mandatory. Please, please, however, realise that once you have that very basic qualification you are simply qualified to step further along a learning process that ultimately has no ceiling.

Aerobatic pilots are those always on a mission to learn something new, to enlarge their mental capacity and improve their situational awareness. You are unlikely to achieve all of these goals flying a club Cessna to the Isle of Wight for lunch, nor the company A330 to Singapore for an overnight stop.

## STRONG IN BRITAIN

The perfect 100% safety record in British domestic aerobatic competitions for more than half a century, is testament to the strong effectiveness of a system that demands self-criticism and provides external validation through a series of stages of increasing complexity. Such validation is not available from the general public or an air show audience, who will cheer, or ignore, anything you do when up in the sky.

Never think you know it all; always want to improve and learn more. ■

## ABOUT ALAN CASSIDY

Alan Cassidy MBE is one of Britain's best-known and most highly experienced aerobatic pilots. He won the British National Aerobatic Championship in 1998, 1999, 2001 and 2003.

As a member of the British Aerobatic Team he has taken part in seven World Championship competitions. Alan has over 5,000 hours in the Pitts Special and has flown numerous other aerobatic types including all the Russian Sukhois and Yaks as well as the German Extra and Xtreme aircraft, not to mention countless other aircraft during his long career as a pilot.

He has been a full-time aerobatic pilot and instructor since 1991. Alan competed in the World Aerobatic Championships in Cape Town (1995), Oklahoma (1996), Kansas (1997), Slovakia (1998) and Toulouse/Muret, France in August 2000.

In September 1999 Alan was part of the British Team flying in the European Unlimited Championships at Cordoba, Spain. He has since flown for the UK in the 2001 World Air Games at Burgos, Spain, and at the 2002 Unlimited European Aerobatic Championships in Lithuania, flying the CAP-232.

In 2003 he flew in the World Championships in Florida, USA in a Giles G202. Since 2006 Alan has flown in three more World and one European Advanced aerobatic competitions, winning an individual Bronze Medal in the Second Unknown sequence in Finland in 2007 and a Team Bronze Medal in Oregon in 2008, where he flew the MX2 for the first time, and an individual Silver Medal in the Known Programme in Radom, Poland in 2010.

In 2009, 2010 and 2011 Alan was the UK National Champion in the Advanced category.



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# GARMIN REVAMPS G500, 600s AND 700s

*New TXi system another step forward for Garmin*

**Product** TXi  
**Maker** Garmin

Garmin has announced the touchscreen G500 TXi, G600 TXi and G700 TXi flight displays, as well as the engine information system (EIS) TXi. Boasting a clean-sheet touchscreen design and vibrant presentation, the TXi family incorporates greater situational awareness tools and an innovative feature set into a contemporary avionics platform. Three displays are available, offering optimal flexibility for panel configurations, including a large 10.6in display, and two versions of 7in displays, in portrait and landscape orientations. The larger display can operate as a PFD, MFD and optional integrated EIS in a highly customised package, while the smaller portrait display can be dedicated to any one of those functions.

The 7in landscape display is available exclusively as a dedicated EIS solution. The G500 TXi system is intended for Part 23 Class I/II aircraft under 6,000lbs, whereas and the G600 TXi flight displays are intended for Class III aircraft that weigh up to 12,500lbs. The G700 TXi is exclusively for Part 23 Class IV and Part 25 aircraft that weigh greater than 12,500lbs. Supplemental Type Certificate (STC) for the G500 TXi/G600 TXi and EIS TXi systems are targeted for approval by the end of this year, which will feature an approved model list containing over

600 single-engine piston, twin-engine piston and turboprop aircraft makes and models.

"As innovators within the avionics industry, we're redefining the flight display with the introduction of the TXi family," said Carl Wolf, Garmin Vice President of Aviation Sales and Marketing. "From a single display to a full suite installation, the modular, building block design of the TXi system supports an impressive array of functions and formats. With TXi, we're excited to bring a suite of scalable flight displays that fit a wide range of aircraft." ■

## NEED TO KNOW

- ✦ Will fit a wide range of aircraft.
- ✦ Many uses for the new touchscreen units.
- ✦ Will be very familiar to Garmin users.
- ✦ Will come with the Garmin price tag.

**Where** [www.garmin.com](http://www.garmin.com) **Price** various



## NEW LIVERY FOR BREITLING CLASSIC

**Product** Chronoliner  
**Maker** Breitling

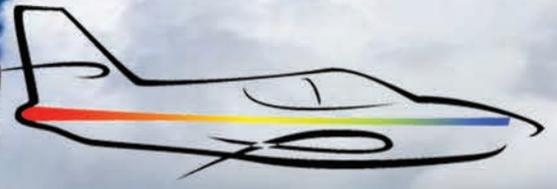
The Chronoliner is one of Breitling's most classic of watches and now the company has released two new colour versions, in blue and bronze (pictured).

Originally realised in the '60s, the current version has many of the original features, including simultaneous readings of three timezones.

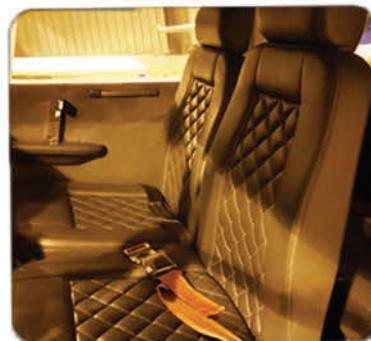
The two new versions also boast matching bezel and dial. Water-resistant to 100m (330ft), the steel case houses a self-winding chronograph movement officially chronometer-certified by the COSC. The face is easy to read and Breitling say it is "worthy of an instrument panel." The red-tipped hand serves to read off a second time in 24-hour mode, while the rotating bezel indicates a third time, also on a 24-hour scale. The caseback bears the stylised planes that long served as the Breitling signature. The new Chronoliner are available with a leather strap, a steel or steel mesh bracelet, or a rubber strap.

**Where** [www.breitling.com](http://www.breitling.com)  
**Price** various

# Fly Moore



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# MORE THAN JUST THE SPITFIRE TALE

David Ogilvy reviews an in-depth story of Supermarine

**Book** Supermarine: An Illustrated History  
**Author** Christopher Smith

Everyone knows the Spitfire, at least by name, yet far fewer are aware of who bought it to life. Supermarine was one of many aircraft manufacturers of its time, but possibly unique in not having an aerodrome from which to fly its products, so it warranted some positive publicity in historical form. This book provides that – and more.

It all started with founder Noel Pemberton-Billing, who introduced himself to aviation by creating his own idea of a flying machine; however, the only flying that this curiosity achieved amounted to the few seconds between him launching from the roof of his house – about 30 feet above the ground – and then hitting that ground! Surprisingly he was unhurt, but, unimpressed, he buried the remains in his garden.

With his combined interest in boats and aeroplanes PB converted an old coal wharf at his Southampton boatyard into a factory in which he produced ‘boats that fly, not aeroplanes that float’. This sowed the seeds for the wide range of water-based aircraft that followed, operating from the Solent. Also, it led to the claim of the site being the first world’s airport, from April 1919 using a very successful Supermarine Channel on a scheduled service between Southampton and the Isle of Wight.



Many products followed, of which the most famous was the Supermarine S6B – the last in a series of racing seaplanes created by R.J. Mitchell, who held the posts of chief engineer and chief designer. These machines were technically far ahead of their time, using highly-strung Rolls-Royce engines that developed far more power than could be used safely on a regular basis; they were so highly stressed that they required a substantial overhaul after each hour’s flying. However they were needed for the later Schneider Trophy races (the book covers the races in detail and is well worth reading about).

Among the key machines from Supermarine was the appropriately named Southampton. Four of these metal-hulled flying boats equipped the RAF’s

Far East Flight, which pioneered long-distance routes over much territory that had not previously hosted an aeroplane, so water-based landing sites were needed. In general, the Southamptons performed admirably and many of the routes they pioneered still exist today as scheduled airline services, but land-based. The operation lasted from October 1927 until December 1928 covering 27,000 miles at an average speed of 80mph. There is much more to the story all in the book.

Of course the main claim to fame was the Spitfire, 22,000 of which were built in various factories. In contrast, the Walrus amphibious biplane which was used by both the Fleet Air Arm and the Royal Air Force throughout World War II has been nearly forgotten. Both were designed by RJ Mitchell, who failed to live to see the results of his work.

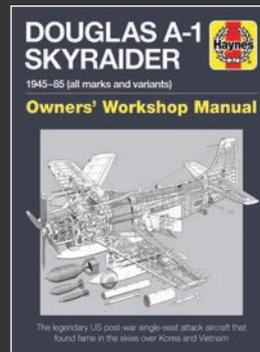
Supermarine continued operating until the early days of the jet era. In common with all other companies born in the heyday of the British aircraft industry, the name disappeared in the national amalgamation process.

Like many things, no book can be perfect, but this book has much to offer. ■

## NEED TO KNOW

- The author digs deep in to the history of Supermarine.
- Fantastic insight into the Schneider Trophy.
- More than just a book about the Spitfire.
- Some captions don't seem to ring true.

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## from the AOPA Pilot Store

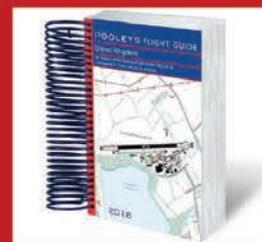
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