

AOPA UK

TRAVELLING EUROPE

Angus Clarke takes us on an adventure, from Sweden through to Germany

TRAINING

There is some discrepancy in the difference between LAPL and PPL – let's work it out

FIRST SOLOS

Re-imagine that first memorable flight from an instructor's point of view



The world celebrates the RAF at 100

There was huge party in honour of the world's most famous airforce, the RAF. Henry Simpson took time out to witness the displays and reports on the celebrations in great depth – you can almost hear the turbines starting up

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THE POWER TO INFLUENCE IS ESSENTIAL

THE QUIET period over the New Year at AOPA is a good time for reflecting on past and present activities and where we might be heading. Time also to catch up on relevant reading matter, the most recent being a consultation paper just shy of 200 pages in length, published in December 2018 by the Secretary of State for Transport, entitled *Aviation 2050 – the future of UK aviation*. It mainly concerns commercial aviation but includes, in one of its nine chapters, one entitled 'Support General Aviation'. Much of the material in this chapter comes from a report issued a month earlier, namely, *General Aviation Strategic Network – Recommendations*, by Byron Davies, GA Champion. This, in similar fashion, makes use of another document describing research into a strategic network of general aviation aerodromes by consultants, York Aviation, reported on in October 2018.

The Byron Davies report actually provides an excellent overview of General Aviation in the UK, even though the conclusions and recommendations are limited to the specific topic of a strategic network of airfields. In parallel, and with a wider remit, the All-Party Parliamentary Group (APPG) on General Aviation chaired by the Rt. Hon. Grant Shapps, MP, has been active through its working groups, covering Airfields, Airspace, Tax and Regulation, and Heritage, with the latest two groups being STEM Jobs and Skills, and Engineering and Manufacture.

The power of the APPG lies in its ability to introduce new or improve current legislation, and/or influence relevant government departments, in order that its objectives, all beneficial to GA, are achieved. These potential benefits arise from improving current situations. In other words, what already exists.

Equally important is the need to influence what has not yet happened or been established. This means engaging with the rule-makers at one end of the spectrum, and the innovators at the other end, with the objective of improving the future viability and sustainability of GA.

Once rules are proposed and enacted they can be very difficult to change if, at a later date, they are found unworkable or disproportionate (as happened to some extent with EASA Part M). AOPA's contribution is made at national level, and also internationally, through IAOPA Europe (EASA and EU), and IAOPA (ICAO). AOPA has a long history of introducing innovative products beneficial to the flight-training industry, pilots and aircraft owners.

We fully engage with the modernisation debate and are one hundred per cent committed to safety improvements to gain greater access to airspace and aerodromes. None of this could happen without the support of AOPA members, for which we thank you.

When opportunities arise, please act as individual ambassadors for AOPA by encouraging non-members to join, in order to ensure that general aviation appeals to, and serves, a younger generation in the future. ■



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CONTENTS

FEBRUARY 2019

07

AOPA AFFAIRS With a 'no-deal Brexit' on the cards, we have to ensure General Aviation is safe. Here AOPA's CEO Martin Robinson explains what needs to be done.

09

AOPA COMMUNITY Your one-stop-shop to find out what's been happening in the world of AOPA and how the organisation is working to keep you flying.

10

WORKING FOR YOU Pauline Vahey shares the latest from the meetings of the Members Working Group and the Corporate Members Committee.

12

PPL CORNER Everybody remembers their first solo. Here Adam Winter talks about how you know when your student is ready to take to the skies on their own.

14

HELP AND ADVICE Nobody likes to think about insurance, but an AOPA member and insurance broker explains why you might see an increase in premiums in 2019.

16

NEWS All the latest from the world of aviation, including certifications of aircraft, big news from Cirrus, scholarships, and changes within the CAA.



22

FLYING FEATURE Angus Clarke is back from another epic adventure across Europe. This time he's travelled from Sweden to Germany and taken in some sights along the way.

26

COVER STORY Henry Simpson shares his insights into the stunning shows that took place throughout 2018 in celebration of the RAF turning 100.

34

TRAINING FEATURE What *really* is the difference between LAPL and PPL in terms of training? Nick Wilcock is on hand to unpick the more esoteric points.

39

TECH REVIEW Discover Breitling's new stunning range of watches celebrating the golden era of aviation, and find out more about Garmin's recently announced 2019 webinars.

41

BOOK REVIEW David Ogilvy reviews a fantastic book about the German pilots' opinions on fighting in the Second World War. There's also a look at another Battle of Britain book.

43

CLASSIFIED ADS Find pages packed with aviation-related listings, as well as opportunities for shares in aircraft, and reputable maintenance organisations.



EDITOR'S MOMENT

What did you promise yourself that you'd achieve in 2019? Was it a new rating, a new aircraft or perhaps to take your plane somewhere new? If you're looking for inspiration, head to page 22 where Angus Clarke visited both Sweden and Germany on his week-long adventure.

The big bonanza in this issue however is Henry Simpson's second part of his two-part review of the RAF centenary celebrations. His writing is so in-depth and evocative that it feels like you're actually there.

In fact the issue is filled with great content from Adam Winter's take on first solos and Nick Wilcock trying to unravel more red tape. There's something for everyone.

And if there's anything you feel the magazine is missing or needs, please get in touch – it's the only way you'll get more of what you want on the pages.

Blue skies.

David Rawlings

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PERFECT PREPARATION PREVENTS... PROBLEMS

THE Government has informed all departments that they should prepare for a 'No-Deal' exit from the EU – this includes the CAA and DfT.

As EASA licenses and certificates are based on ICAO Standards, I do not envisage pilots and aircraft being grounded in respect to UK airspace. However a LAPL is a 'sub' ICAO licence, and whilst the CAA may allow pilots to continue to exercise the LAPL privileges in UK airspace, we have no idea how the EU will deal with this issue. Other EU states may not accept licences that are not ICAO based, if the UK is treated as a third country, which looks extremely likely given the current political position and the Prime Minister's words about our future relationship with EASA.

It's a strange position to be in, because the UK ANO is based on the EU Basic Regulation (as amended) whereas a no-deal exit leaves the UK as a 'third' country where the EU may not accept UK CAA issued certificates/licences if EASA no longer audits/oversees the UK Regulator. You really can't make this stuff up! At the same time some UK aviation companies are seeking EASA approvals in order to be able to minimise any disruption, but this means paying EASA directly and them agreeing to another EASA State providing support and oversight. Whilst larger businesses may be able to go down this path, for smaller (GA) type businesses it may not be possible. We've already received reports about the impact on flight training where the students are coming from other EU States. AOPA is also concerned that coming out of the Customs Union and moving to WTO rules is likely to have an impact on the sale of aircraft and parts in and out of Europe. Because of the political mess over leaving the EU, no one can be certain at this time about the probable outcomes, how the DfT/

"We need the right technology to support future airspace safety improvements that also provide increased access to airspace"

CAA will deliver on – "To Make the UK the best place in the world for GA" as stated in the Government's strategy.

FUTURE RELATIONSHIPS

On 17 December 2018 I wrote to Baroness Sugg asking for clarity about the future relationship with EASA given the Prime Minister's position. It seems that the PM and her officials in the DfT are not on the same page as it appears that the DfT was not aware of the PM's statement or what 'capabilities' means when the PM spoke about a future relationship with EASA to a parliamentary committee. When we get a response it will appear on our website.

I also wrote to the CAA Chair about our concerns over the removal of CAP1122, which supported the introduction of GNSS approaches into typical GA aerodromes. It appears that the CAA removed its own publication as it does not believe it provides the required levels of safety. Based on CAP 1122, at least 15 aerodromes made investment decisions and a lot of work has been done in order to improve safety; this situation with the CAA is not satisfactory.

Since Sir Roy McNulty's time as Chairman of CAA (2001/2002), AOPA has been pushing for GNSS approaches, and progress is glacial.

DISRUPTING DRONES

Another debacle was the drone

incursion at Gatwick. The Government has reportedly stated its aim is for drones to have access to all of UK's airspace by 2020. I have been a supporter of electronic conspicuity for a number of years, on the basis of the availability of low-cost portable equipment. This principle is also contained in IAOPA resolutions which are agreed internationally.

We need the right technology to support future airspace safety improvements that also provide increased access to airspace. Currently transponders operate on 1030/1090kHz and as the CAA embarks on its airspace-improvements proposal it will also need to decide on which technology will be developed to support the integration of drones and the safety improvements needed for other airspace users.

A future airspace consultation must include a 'digital' technology approach; my concern is that it will not. SESAR is reporting that by 2030, ATM will be IP based with increasing use of AI (less Artificial more Intelligence) and data will form part of the new system (ADSP) Airspace Data Service Provider. The world is always changing, and adapting to any change has to be affordable to GA.

Finally, the CAA has been consulting on its fees and charges scheme. Whilst the average increase is 2.4% across schemes, AOPA is objecting to any increase because of the lack of performance, particularly from the Shared Service Centre and on GNSS Approaches (CAP 1122). ■



M Robinson

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HELPING YOU STAY FLYING

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



10 WORKING FOR YOU

Notes from the meetings



12 PPL CORNER

Ah, the first solo



14 ADVICE

The world of insurance



WORDS Pauline Vahey **IMAGES** various

THE LATEST FROM THE MEMBERS MEETINGS

Highlights from the two most-recent meetings that took place in November

LATE LAST year both the Corporate Members Committee and the Members Working Group met to discuss the latest concerns. Here are the outcomes...

CMC LATEST

A Brexit-Free Zone. Discussions started with air displays and the minima being expected, moved on to infringements, and then human factors, which are becoming a significant factor in incidents in all aviation, not just GA.

The lack of data around GA operations and movements, and as a consequence the ability to use that data for influencing Government with respect to the requirements of GA, was also discussed and produced ideas on how to change this.

An economic case needs to be built, with proof for Government, in order to get the law changed.

This led to a discussion on the value of the Corporate Members Committee and a radical overhaul of the format was proposed. It was recognised the Committee is not reaching all its Corporate Members throughout the country, being south-east based; there are many others who should have a voice.

The proposal is that AOPA UK will organise a spring seminar at the end of February for all Corporate Members, with invitees who will be asked to address the issues that are affecting the resources and business planning of our Corporate Members. It will be a

"It will be a two-way communication event for those who can influence the regulatory framework "

two-way communication event for those who can influence the regulatory framework that the Corporate Members work in, and for the Corporate Members will express their concerns. This to be followed up in the autumn to review progress – spoiler alert, this may include Brexit. Further details to follow.

I'd like to wish all the Corporate Members who have supported the Committee in its regeneration during the last three years a safe and prosperous New Year and thank them for their support. Moving forward we all need to work together.

MWG LATEST

There really is no escaping it. The meeting kicked off with the CEO, Martin Robinson's



White Waltham has hosted many Members Working Group meetings, including the last one of 2018

update on the issues of the day, leading with Brexit, summarised as “preparing for the worst, hoping for the best!”. Until there is a political decision, the CAA and EASA can't openly discuss how they may cooperate in the future. So, in preparation for a 'no deal' Brexit the UK has begun the process of Bilateral Agreements with the USA, Canada and Brazil as far as aviation is concerned.

Through Single European Skies (SES) the rules around airspace have been established. SES regulations will still be law post-Brexit. EASA writes the rules for ATCOs/ANSPs etc in order to make the SES regulations function. The UK CAA has been consulting on airspace and its future, with some concerns raised about Class E airspace, which although just a discussion at present will need proper engagement from General Aviation (GA). There are a number of challenges ahead; AOPA is taking part in all the discussions and showing proper leadership on behalf of its members in these debates.

Martin attended EASA's Annual Safety Conference 2018 representing AOPA's members' interests on the topic of 'A Vision for the Future of GA'. Patrick Ky had closed the conference, committing EASA to GA with simpler, better and cheaper (affordable) rules.

One of the issues identified with all the good work that AOPA carries out is that it doesn't just benefit the AOPA membership but also the wider GA community. There followed an open discussion on ideas to boost the membership and to improve the benefits for members by providing a wider range of services targeted at those of GA community who are yet to become AOPA members. There were a lot of interesting and practical ideas put forward by the MWG. These are the people who've taken the time not only to join us but also to participate and contribute. These ideas will be taken to the Executive Committee for further

discussion and refinement, and we'll keep you posted on the outcomes. The MWG working at its best.

Information from the All Party Parliamentary Group for Working Groups was reported on, in particular the change in status of the airfields on the 'At Risk Register'. There was good news about Blackpool, with a reported £3.4 million earmarked for safeguarding the airport and its aviation use, in a planned £27 million development on the site. A Parliamentary Inquiry into Airspace had just been launched and would be proceeding with its work in 2019, in consultation with a Green Paper on Airspace which had just been published by the Government. It was commented that whilst negatively affecting the amount of flying activity, more-regulated airspace had not improved aviation's safety record.

In this context, conspicuity was discussed and Bob Darby gave us his update on the GA Improved Navigation and Surveillance project.

There was news that the Financial Conduct Authority was conducting a review of the Lloyds of London Insurance market and its 2019 business plans. This meant that many syndicates were being forced to pull out of unprofitable lines of business and in some cases, this included Aviation Insurance. As a result, the aviation community should expect an increase in premiums in 2019.

Finally, I'd like to thank all of our members, both occasional attendees and the regulars for their support and contribution in 2018, and to wish you all a safe and prosperous New Year.

All AOPA members (and your friends) are welcome to attend MWG meetings, and there is a free lunch. The meetings are usually held at White Waltham, with a couple of exceptions in June and November. The dates for 2019 are as follows: 26 January, 06 April, 01 June 21 September and 23 November – hope to see you all there. ■



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WORDS & IMAGES Adam Winter, Commercial Pilot and Instructor

A GOOD HOLD-OFF AND ANOTHER SUCCESSFUL FIRST SOLO

It's one of the biggest achievements of any pilot.
But how do you know you're ready for your first solo...

YOUR First Solo. You are on your own and you have lined up. All the checks are done. You are in charge. The seat next to you is empty!

No one is there to confirm all is well. And now, just like your childish self standing in the warmth next to a cold swimming pool, you have to jump. Hopefully you are filled with a sense of nervous excitement. If you are filled with a sense of dread: YOU'RE NOT READY.

I have sent countless students on their first solo and a high percentage have made it back successfully: 100%.

When considering a student's readiness for solo, there are several criteria to consider, boxes to tick (medical, age) and gut instinct. The obvious ones are his or her ability to fly the aircraft, and the weather

"Some of the rest of the mental capacity should be used for awareness of other aeroplanes in the circuit or joining"

conditions: the day of the solo is going to be a good VFR day, and the wind should be calm or pretty much down the runway.

For the flying part of the exercise, if I am considering sending a first solo, I will see how they are flying on the day. I will already have flown with them, if not from the very beginning, at least for the last couple of hours of circuit work. I will have seen how they cope with their own inabilities, failed approaches and at what point they abandon a landing if necessary.

For the take-off, I expect them to maintain the centre line, with neutral ailerons unless there is a slight crosswind. A huge 'NOT READY' alert for me is if the student uses the aileron with the rudder to help keep straight (during taxi too). Continued

right rudder pressure after take off to maintain balance is often neglected in the early hours. The actual lift-off should be from a smooth application of back pressure, not a sudden jerk back on realisation that Vr has been achieved.

The climb to circuit height and levelling off should be routine by now. I do watch my student's eyes. Are they looking at the horizon? Is their attention outside? Are they hypnotised by the artificial horizon, altimeter, airspeed indicator, direction indicator? Is there a thumb hovering over the PTT button in anticipation of the downwind call. If so, they are NOT READY, they are fixating on something and not taking in the whole picture. They would at this stage have zero capacity should anything out of the ordinary occur. They should be looking at the horizon, then a sweep around for other aircraft, then perhaps a quick 'snapshot' at one or two of the instruments, before looking out again. They should have the capacity to be thinking about what is going to happen next.

Levelling at circuit height, attitude, power, trim – neatly done. Downwind checks, circuit pattern, aware of other traffic, RT call, good lookout. This should be routine, and not take up too much mental energy. Some of the rest of the mental capacity should be used for awareness of other aeroplanes in the circuit or joining. If there are others in the circuit with us, I ask the student where they are. If I start talking



Another student returns from their first solo – an experience they'll never forget

about last week's episode of Doctor Who, I expect them to tell me to shut up. If someone has called downwind ahead of us, I want the student to have both heard the call and looked ahead to see if they can spot the plane. This applies to aircraft joining crosswind, or descending on the dead side, or even five miles away calling for a join. If the student is aware of all of these, then the actual flying has not taken up all their other mental faculties. I also assess the student's adherence to the local traffic pattern and how they fit in with the other planes they are sharing the pattern with.

The approach and landing should be stable and uneventful with consistent speed, and angle of descent on the approach. They have done this many times, and by this stage I have seen them make lots of successful landings. On the day of the solo I want to see at least three reasonable landings. They don't have to be perfect, but if they are not, I want the student to recognise why.

"I could have held off just a bit more; it was slightly flat."

"My approach speed was slightly high so we floated longer than usual."

"It started to balloon; I stopped the back pressure, but held off a bit too high."

The list is endless. If a student goes around for any reason, kudos points. If I have to take control – NOT READY.

After landing the student should bring the aircraft to a smooth stop. There should be no screeching of tyres from panic braking, the control column should be kept aft and the runway vacated as soon as practical.

Accidents during a first solo are extremely rare. I can't find any statistics, and in my 30 years of flying I have only heard of one. The controller was not aware that it was a first solo and asked the pilot to perform an orbit, which proved too much and the aircraft spiralled out of control. A student on a first solo is freshly trained and should be

as aware and as prepared as they will ever be. My guess is this is why the accident rate for this stage of training is so low. They have practised abandoned take-offs, engine failures after take-off, fire practice, radio failures, electrical failures, diversions to other fields.

With diversions in mind, I always do some navigation with a student before their first solo. I fly from Elstree so a good GA-friendly diversion is either Duxford or Southend. I tell a student that if they have to divert it will be because something has happened on the runway and it is blocked. It won't be a weather related diversion on a solo day! If they need to divert on the day of their first solo I want it to be an adventure, not an emergency. With this in mind I never send a solo student on a first with less than an hour to go before sunset. Also they will be comfortable speaking to a large ATS unit to ask for help. If it was a real diversion during a first solo I wouldn't want the student to stress about correct RT! So just tell the unit what has happened and ask for help – in plain language – the controller will understand, and it will probably be the highlight of their day.

I am happy to say I have absolutely no interesting first solo stories to tell. However, I have some advice about your second first solo. That is the first flight you take after you receive your licence with a non-pilot passenger. The advice is, 'think carefully about who you take'. This will be your first flight where you are in charge. Your passenger perceives you as you perceived your instructor in the early days (and you hopefully had 100% confidence in their ability). Do not take the wife and children yet! Please build up confidence, experience and capacity first. Go with another PPL holder you know, share a couple of trips. Then, when you do take the family, take them somewhere nearby or just for a 10 minute local flight to see how they like it before doing a longer trip. ■

PPL SUNDAY GROUND SCHOOL

Following the popularity of the first series of courses, AOPA is pleased to advise that it is running more Ground School courses for ab initio pilots.

The PPL Ground School takes place at the AOPA offices at 50a Cambridge Street, on the dates shown below. The AOPA office is only five minutes' walk from Victoria Station – check the AOPA website for the latest dates.

All nine subjects required for the PPL (Aeroplanes) are taught over a period of approximately 70 hours.

The lecturer is Adam Winter, a highly qualified and experienced flying instructor who works for the Flyers Flying School at Elstree.

You can read more about the training and subject matter at WWW.AOPA.CO.UK

FEB 19 – MAY 19

AIR LAW	24 FEB/21 APR
OPERATIONS AND PROCEDURES	24 FEB/21 APR
HUMAN PERFORMANCE AND LIMITATIONS	14 APR
<hr/>	
NAVIGATION	03 MAR/28 APR
METEOROLOGY	24 MAR/12 MAY
<hr/>	
AIRCRAFT GENERAL KNOWLEDGE	07 APR/26 MAY
PRINCIPLES OF FLIGHT	31 MAR/19 MAY
<hr/>	
PERFORMANCE & PLANNING	17 MAR/05 MAY
COMMUNICATIONS	17 FEB/14 APR



It is not necessary to attend the full course and candidates can select the individual subjects they wish to study from the published dates. You do not have to be a member of AOPA to participate. Further details can be obtained from Adam Winter on 07985 969018

WORDS Aviation Pen

AVIATION INSURANCE – FROM AN INSIDER

As with death and taxes, you can always rely on insurance premiums going up. Here an insider, from the world of aviation insurance, explains all...

AT THE recent MWG at White Waltham we were given a short briefing by an AOPA member who is also an Aviation Insurance Underwriter at Lloyd's of London. He apprised the MWG of the distinct possibility of members' aviation insurance premiums increasing during the course of 2019, possibly by double digit percentage points.

There are various reasons behind this but he noted that for at least the past 10 years – assuming you have not had a claim – the premiums for the UK GA flying fraternity have been consistently reducing, and this he advised had been mirrored in the worldwide GA arena as well the airlines and aerospace sector of the industry. In many cases these reductions had culminated in premiums 50 to 75% less than what they were paid in the early 'noughties'. We all know that the airline accident rate has reduced substantially during the same period, but GA – he advised – has generally been pretty stagnant, and certainly the costs of repairs and litigation payouts have increased.

He provided some background as to the reasons for these reductions; the aviation insurance market is driven by the premiums and profitability of the airline sector, which generates a sizeable proportion of the world's aviation premiums, with upwards of 60% of that premium coming into the London market. However aviation insurance is but a



Making the numbers work. How aviation insurance can be a minefield

"Accordingly our Lloyd's underwriter anticipated that most UK GA insurance buyers will likely see a 10% increase"

drop in the ocean compared with that generated by the worldwide property/casualty sector, marine and non-marine insurances, hence the recent wildfires, hurricanes, tornadoes, tsunamis, and major disasters around the globe all add up, and have cost the insurance market billions of US dollars in claims. The managements of the various (now largely) multinational 'speciality' Insurers (i.e. in general, not those underwriting your UK house or motor insurance) have been forced by mounting losses to cease chasing market share and actually start turning a profit – heaven forbid! This in turn has caused these companies managements – and in the case of Lloyd's, syndicates specifically (Lloyd's regulates and approves the business plans of all the syndicates

who operate under the Lloyd's franchise) – to focus heavily on under-performing lines of business, and either pull out of the sector all together or seriously reduce their exposures and drive increases to restore profitability.

So where did this all leave the UK GA owner during this period? Put simply, the underwriter explained that with the drive for market share in recent years, many underwriters entered into the GA market to bolster their spread of aviation business due to the falling returns in the airline/aerospace sector as rates came down, and these new players helped drive the pricing down substantially in GA as well. It is likely your brokers advised you many a time that these reductions 'won't go on for ever so take it while you can' and this has

seemingly been the motto of owners, naturally, and why feel sorry for the underwriters anyway!?! This is especially the case when the product they have offered is the same or indeed even wider than previously, with the reintroduction of franchise excesses, Betterment and more recently a daily coverage option by one new entrant.

Our underwriter friend advised that following recent immense pressure from Lloyd's, numerous syndicates have cut back or shut down their aviation insurance operations in the final quarter of 2018 – along with the closing of other loss-making sectors such as Marine Hull, Construction Liability, Cargo and Energy (to name but a few) – all of which has caused shrinkage of the available market for brokers to secure your business. Naturally, seizing the opportunity of reduced competition and the chance (in their view!) to commence the much needed adjustment of premium levels back to where aviation insurance can trade in the black, the surviving underwriters are increasing rating levels across the board. Airlines, in the last trading quarter, have seen increases of an average of 7.5% – but some as high as 60% to 100% if their accident record has been remotely poor in recent years, whilst GA risks are averaging 10%, but many more upwards of 25% if they are in more challenging parts of the world/types of operation.

Accordingly our Lloyd's underwriter anticipated that most UK GA insurance buyers are likely to see a 10% increase in the premiums charged during the coming 12 months, without adjustment for any accident record, and quite possibly a change of the insurers who physically underwrite the risk (remember your broker, whether they are an online only portal or not, is not the risk taker – the underwriter/Insurer is). His

recommendation was, of course shop around if you feel your renewal price is completely unreasonable, taking into account the background contained in this article; perhaps for a change, staying loyal to the same underwriter/broker might just be beneficial if this premium trajectory continues into 2020 and beyond – as the market hopes it will! – to return itself to profitability. If you do shop around, he suggested that you should also be prepared to provide more-detailed information about the pilots who fly the aircraft, their currency and the annual training they undertake to improve the risk profile from an underwriter's perspective.

He considered that withholding information will definitely be seen as negative.

So all in all, it would seem forewarned is forearmed in this case and, as ever with insurance, he highlighted that we should be seriously aware of pricing or coverage options that look 'too good to be true' as they could be very short-term and ultimately cost us money. He reminded us that, whilst accepting insurance remained one of the larger costs that GA pilots/owners have to address during the flying year, it is priceless when and if a claim occurs, especially one involving injuries or fatalities to third parties. That is after all what you are paying for – transferring a cost which in reality none of us could likely afford to pay individually, to those who can pay but who want a comparatively – (his words!) small slice of our annual income to take such a risk. To put it into perspective from a GA point of view, he suggested reflecting on the millions of pounds needed to settle the claims arising from the Shoreham tragedy versus the premium the underwriters received for the annual insurance of that aeroplane, which was just a few thousands. ■

AOPA FLYING INSTRUCTORS REFRESHER SEMINARS

For revalidation of an FI certificate, the holder shall fulfil two of the following three requirements:

- 1 At least 50 hours of flight instruction during certificate validity as FI, TRI, CTI, IRI, MI or Examiner;**
- 2 Attend a Flight Instructor Refresher Seminar within the validity of the certificate; and**
- 3 Pass an Assessment of Competence within the 12 months preceding the expiry of the certificate.**

For at least each alternate subsequent revalidation, an assessment of competence must be undertaken. In the case of a renewal you should, within 12 months before renewal, attend a Flight Instructor Refresher Seminar and pass an assessment of competence.

NEXT DATES

The next dates for the seminars are

14-15 MAY and **3-4 DECEMBER 2019.**

All seminars are now run at the AOPA offices at 50a Cambridge Street, London SW1V 4QQ – only 5 minutes' walk from Victoria Station.



To register for a place on any of the seminars please call the AOPA office on 020 7834 5631 or join online at WWW.AOPA.CO.UK.

The seminars start at 1100 and end at 1800 each day to facilitate travel.

AOPA NEWS

General Aviation news from around the world

NEW JET ANNOUNCED & KLAPMEIER STEPS DOWN

The next generation of Cirrus' popular jet is on its way and the boss moves on

by Lucy Field

Cirrus Aircraft announced the launch of the next generation of the Vision Jet™ – 'G2' and Cirrus co-founder Dale Klapmeier has said he plans to step down in the first half of this year.

The new jet offers an increase in cruise altitude, speed and range, along with a newly-upgraded Perspective Touch+ by Garmin flight deck. Innovative technologies unique to G2 include a category-first Autothrottle, Flight Stream connectivity and more. Enhancing the passenger experience, new executive seats, thoughtfully-engineered noise reduction and a passenger productivity console highlight numerous G2 cabin upgrades.

"The Cirrus Aircraft story is one of relentless innovation," said Pat Waddick, President, Innovation & Operations. "Much like the last twenty years of re-imagining the SR Series with constant improvements to performance, safety and comfort, the G2 Vision Jet is the culmination of that same spirit of innovation. This aircraft is yet another game-changer in personal aviation and it's made possible by the world-class team we have at Cirrus Aircraft."

On a typical mission, G2 now provides increased flexibility to carry an additional 150 lb on an 800 NM mission and pushes top cruise speed even further above 300kts.



The V2 will go higher, faster and further than its predecessor

The G2 Vision Jet introduces the 'Perspective Touch+' by Garmin (pronounced "Perspective Touch Plus") advanced flight deck. With new hardware, faster processing speeds and greater screen resolution, Perspective Touch+ elevates the Vision Jet flight deck to a new level. Typically found on high-end business jets and commercial transport aircraft, Autothrottle is now available on G2. This game-changing technology integrates with the autopilot and can automatically adjust the aircraft's speed for each phase of flight, reducing workload and giving the pilot more time to focus on other tasks.

Collectively, these new G2 features add to the

class-leading capabilities of the Vision Jet flight deck including 3D Synthetic Vision, SurfaceWatch, integrated crew alerting, datalink weather, active weather radar, ADS-B, satellite communications, system synoptics and more. Upgraded Intelligent Batteries from True Blue Power round out enhancements delivering improved cold start capabilities.

Cirrus has sold nearly 100 Vision jets worldwide since its launch, and the G2 Vision Jets begin delivering this month.

Chief Executive Officer, Co-Founder and National Aviation Hall of Fame member Dale Klapmeier plans to step down from his current executive position within the first half

of 2019 and transition into a senior advisory role. A new CEO is expected to be named within that timeframe, as an internal and external search is currently underway.

"Re-imagining personal transportation has been our lifelong mission at Cirrus Aircraft," noted Klapmeier. "We've changed the face of aviation over the past 30 years – from delivering more than 7,000 of the world's best-selling high-performance piston aircraft, to fundamentally rethinking how we travel with the introduction of the world's first single-engine Personal Jet – the Vision Jet, to transforming our business into a lifestyle company that defines our path ahead." ■

ROLLS-ROYCE BUILDING 300MPH ELECTRIC AIRCRAFT

by **Robert Care**

Rolls-Royce is leading a research project known as Accelerating the Electrification of Flight (ACCEL) to explore the use of a high-power electrical system in a

demonstrator aircraft. The goal is to build and fly the world's fastest electric-powered plane.

Partly funded by the UK government, Rolls-Royce is working with YASA, a manufacturer of high-power, lightweight electric motors and

controllers used in automotive, aerospace and industrial applications. Drawing on its expertise in aviation design and safety, the project aims to flight test the system "to gain a detailed understanding of the potential for electric flight."

As part of the initiative, Rolls-Royce is building a unique electric aircraft. It's scheduled to take to the skies next year, reaching a projected speed of 300mph. "This plane will be powered by a state-of-the-art electrical system and the most powerful battery ever built for flight. In the year ahead, we're going to demonstrate its abilities in demanding test environments," says Matheu Parr, ACCEL Project Manager for Rolls-Royce. ■



It looks fast even in a CAD rendering

AEROMOBIL APPLIES FOR EASA TYPE CERTIFICATE

by **Robert Care**

AeroMobil, the flying car designer, has taken the next step to achieving airworthiness approval by submitting its application for Type Certificate with EASA. In 2019 the company will pursue compliance with European automotive rules with Vehicle Certification Authority, as the company seeks to complete final flight and roadworthiness testing next year before going into full production.

The company aims to certify its first vehicle as a non-complex aeroplane with a maximum take-off weight less than 1200kg. The certification is based on the CS-23 amendment 5 of the General Aviation Regulation with special conditions relating specifically, but not exclusively, to the use of

automotive products such as airbags, safety belts and support systems.

"We are delighted to be hitting this crucial milestone as we move towards manufacturing in the upcoming years," said Doug MacAndrew, CTO, AeroMobil. "Building a flying car is incredibly complex and understandably EASA will be incredibly thorough

when they analyse the design of our flying car. We are looking forward to working with EASA and showing how we've been able to incorporate the best aspects of automotive and aerospace technology into one design to deliver a vehicle that is both transformative, but also very much in line with the aerospace safety and regulatory requirements." ■



The sleek-looking AeroMobil is heading for certification

LOOK BACK... THIS MONTH 14 YEARS AGO



FIRST NONSTOP GLOBAL FLIGHT

The Model 311 Virgin Atlantic GlobalFlyer flew a solo nonstop flight around the world in a little less than three days, setting a plethora of world records.

The Aircraft was designed by Burt Rutan and flown by Steve Fossett.

A tailwind was essential to making the 22,858.729 miles that it needed to fly to meet the FAI's definition of circumnavigation. The GlobalFlyer was designed to complete the circumnavigation with minimal reserves of fuel. A design flaw in the fuel-venting system resulted in the loss of about 2,600lb of fuel early in the flight. This forced Fossett to decide whether to abort the flight as it reached the Pacific Ocean near Japan. Fossett chose to delay the final decision until he reached Hawaii. By that time, favourable winds encouraged the team to attempt to complete the circumnavigation. GlobalFlyer landed at Salina at 19:50UTC on 3 March 2005, having completed its circumnavigation in 2 days, 19 hours, 1 minute and 46 seconds at a speed of 342mph. The distance flown was 22,936 miles, only 78 above the minimum distance required.

**AOPA NEWS
HIGHLIGHTS****PIZZA FOR ALL**

In a show of solidarity with their unpaid US counterparts, Canadian Air Traffic Controllers ordered pizza for FAA controllers at facilities across the US over the weekend. It started with controllers in Edmonton, Alberta buying pizza for the staff in Anchorage. The movement quickly spread and by Sunday, every Canadian ATC facility had been paired with one or more US towers or centres to supply some free meals for them.

FOR SALE: MiG 23

Ever fancied owning an aircraft that's a bit different to a Cessna or a Piper? Something that has real apron appeal and will turn heads? Something your mates will be jealous of? Well, how about a MiG-23?

The only airworthy MiG-23 in the US is up for sale, so if you fancy flying at Mach 2.35 to get to your important business meetings, then this is the aircraft for you. Oh, and you'll need \$1.4m to make it yours.

**GLIDING TEAM
ANNOUNCED**

Six of Britain's top under-26 glider pilots have been selected to represent Team GB in the Junior World Gliding Championships (JWGC) taking place in Hungary later this year. They are: Jake Brattle, Simon Brown, Peter Carter and Finn Sleight, and reserves Clement Allen and Henry Inigo-Jones. The six are currently fine-tuning their flying skills through coaching and support from the British Gliding Team.



L3 is launching
a new
scholarship
programme

NEW L3 FEMALE SCHOLARSHIP

L3 invites more women to pursue a piloting career through new female scholarship opportunity

by **David Rawlings**

L3 Commercial Aviation has announced the launch of the L3 Pilot Pathways Female Scholarship programme, which will provide 10 scholarships to female candidates applying for its Integrated Airline Transport Pilot Licence (ATPL) training programme.

Within 2019, the programme will award 10 successful female candidates a £25,000/€29,000 sponsorship towards the cost of their training.

"We are passionate about encouraging more diversity onto the flight deck. It's a significant issue for the industry and addressing it is crucial not only because it is the right thing to do, but because it will attract a broader range of talent, help to address the pilot shortage and deliver a future generation of well-rounded pilots," said Robin Glover-Faure, President of Commercial

Training Solutions, which is part of L3 Commercial Aviation. "We're delighted to launch the L3 Pilot Pathways Female Scholarship, which is part of our commitment to helping build a more inclusive future for the industry."

Geoff van Klaveren, Vice President of L3 Airline Academy, added, "Becoming a pilot requires a lot of dedication, perseverance and high-quality training, and there are no skills or aspects of the job that favour either gender. Yet, the number of female pilots remains stubbornly low, with estimates suggesting that women represent less than six per cent of commercial airline pilots worldwide. We believe in improving accessibility so that those with the potential, whatever their background, have the opportunity to fly."

The scholarship is part of the L3 Pilot Pathways programme, which is a broader commitment to improving the accessibility

of training to aspiring pilots from all backgrounds. Additional scholarships and initiatives from the L3 Pilot Pathways programme will be unveiled in 2019.

The L3 Pilot Pathways Female Scholarship is open to women from the UK and Europe, with the first three scholarships to be awarded in the first quarter of 2019 and the remaining scholarships awarded throughout the rest of the year. The candidates will be evaluated on their performance during the selection process for the ATPL training programme and three short questions on why they deserve the scholarship. There will be no additional eligibility criteria to apply.

The new scholarships are in addition to the existing L3 Airline Academy Women Aviators scholarship for candidates applying from the US. Candidates can apply at www.L3AirlineAcademy.com ■

AIRPORTS STILL VULNERABLE EXPLAINS DRONE EXPERT

by **AOPA News Team**

Robert Garbett, founder and Chief Executive of Drone Major Group, the world's leading global drone and counter-drone consultancy says that virtually every commercial airport currently remains vulnerable to criminal abuse or 'rogue' operation of drone technology, notwithstanding the shock wake-up call from the chaos at Gatwick Airport before Christmas, and more recently at Heathrow.

This warning from Garbett is "... because there remains very low awareness among

the business community of the extraordinary pace at which drone technology is evolving ... and this makes staying ahead of the threat posed by those who would abuse this technology challenging.

"The commercial air drone market is currently still like the Wild West ... exciting, and representing unprecedented economic opportunity for companies and organisations which are fast adopting this exceptional technology. However there will always be those who would flaunt laws and regulation to cause maximum disruption around the world.

This particularly impacts on more vulnerable sectors such as airports, financial centres, energy facilities, stadiums and concert venues etc, which require tailored defence strategies to protect against what is a new and real security challenge.

"One of the challenges for our clients in all sectors is the need to adopt drone technology always within a disciplined strategy which supports the organisation, ensures security and also 'future proofs' what is put in place. The adoption of counter-drone technology is no exception, and so



Robert Garbett

we would urge those organisations reacting to recent events to take a breath and think strategically.

"As far as criminals or 'rogue' drone operators are concerned ... they will always exist ... but their task will be made much more difficult by an increasingly informed business community, the putting in place of more sophisticated counter-drone strategies, the implementation of the forthcoming 'Drone Bill' within the UK and the adoption of the new aerial drone Standards which were launched for public and peer group consultation in November 2018 by the International Standards Organisation (ISO). Their deadline for public responses on this consultation was 21 January 2019." ■



It's only small, but can shut down international airports instantly

NEW HEAD OF GA AT CAA ANNOUNCED

by **Robert Care**

The CAA has appointed Rachel Gardner-Poole as the new Head of its General Aviation Unit. She will take up the post later this year following the departure of current head Tony Rapson.

Rachel brings a wealth of aviation experience to the

role and is currently Portfolio Director at the Civil Aviation Authority. She began working for the CAA in the General Aviation Unit, in which she played a leading part in implementing changes following its launch in 2014.

Her previous experience includes working on counter-terrorism with the Home Office

and as a scientific researcher in the defence sector, where she learned to fly. She also volunteers for a flying charity which delivers aid and emergency relief to remote locations.

Mark Swan, Group Director Safety & Airspace Regulation, said: "We are delighted to make this announcement.

Rachel is the right candidate for this role. Her ability to deliver complex projects, combined with her strong leadership skills and wide-ranging aviation experience, made her the obvious choice. Many in the General Aviation community will already know Rachel and I am sure they will welcome her appointment." ■



TECNAM'S P2012 IS NOW EASA CERTIFIED

The twin-engine, multi-purpose aircraft is now ready to fly

by **David Rawlings**

Tecnam announced that EASA has awarded full Type Certification to the P2012 Traveller (featured in AOPA UK February 2018 issue).

The arrival into service of the next-generation 11-seat P2012 Traveller is much anticipated by many airlines, which have been demanding a replacement for the many hundreds of 'heritage' aeroplanes.

With FAA certification expected to follow shortly, Tecnam is on track to commence deliveries early this year.

The P2012 Traveller development project was officially announced in the beginning of 2015, with Tecnam investing in new state-of-the-art production facilities in Capua, Italy.

This key certification milestone will add and ensure new and significant profitable revenue streams for Tecnam, which have been built on a foundation of over 70 years' aircraft manufacturing.

The Tecnam board is particularly proud to have met all schedules announced at the time of the application for the certification programme: the first P2012 prototype made its maiden flight in July 2016 and the Type Certificate has been obtained in December 2018.

The two prototypes used in the certification programme have flown a total of 600 hours with Tecnam Experimental pilot Lorenzo De Stefano. The flight test programme included sorties in severe environments: in real icing conditions and very hot temperatures, at altitudes and speeds not usually met

in everyday operations, testing diving speeds and flutter conditions. The test programme was focused on assuring customers that the P2012 will operate safely and reliably at all times and in all weather conditions.

Particular care has been applied on cabin safety, evacuation and fire protection tests, going further than the CS23 EASA and FAR23 FAA requirements and reaching Commuter category standards (for aircraft up to 19 passengers), while for other features, such as seating safety, Tecnam met the more restrictive CS23 FAR 23 rules.

The P2012 Traveller programme benefited from the support of many global aerospace organisations including Lycoming and Garmin. Tests were also performed in partnership with

organisations such as Federico II University of Naples Wind Tunnel, Polytechnic of Milan for dynamic tests on seats, the ice wind tunnel in New York, and a lightning test in Nürnberg, Germany.

Michele Oliva, Head Of Design said: "I need to say thanks to all our Tecnam Design Office engineers, authorities' representatives and our partners, but especially to the technicians of the Experimental Department who set up the aircraft for testing, often working until late at night, to let us be ready for tests the next morning. I am especially proud that we have successfully completed the project that the late Prof. Luigi Pascale started. We know we have achieved all that he envisioned in the development of this game-changing aeroplane." ■

ALSIM CELEBRATING 25 YEARS OF PROVIDING TRAINING SIMS

by David Rawlings

In today's tough climate it's always good to hear a story of success in aviation, and Alsim is celebrating its 25th anniversary of selling simulators to schools and universities.

Alsim has developed and manufactured FAA and EASA certified FNPT II, FNPT II MCC and AATD flight simulators since 1994.

And after a successful 2018 the company is ready to celebrate. In the last year alone Alsim sold more than 35 simulators, ranging from a Cessna 172 Skyhawk – which was hugely popular at Oshkosh – and an exact copy of a DA42 with genuine parts, all the way up to its newest model, The Airliner, which was launched in 2018. The company also offers

multi-plane options, giving schools the opportunity to fit each of their different aircraft types into one simulator. 2018 sales included multiple orders, such as Egnatia in Greece (six simulators ordered), and Kent University in the US (four simulators ordered). And established clients are reordering Alsim's devices for a second or third time:

for example C3P in Tahiti, Astonfly, Trimaille Aero Formation and Aéropyrénées in France, and Montair Aviation in Canada.

The new Airliner model, which has already proved popular, offers training that includes multi-crew operations, jet orientation course, preparation for airline skills test and Type ratings. ■



The GA sims have been a huge success at airshows

COUNCIL OWNED

by Lucy Field

Wellesbourne Airfield appears to be heading into local council ownership.

Stratford District Council has confirmed it has set aside £1.125m in its 2019/2020 budget for the Compulsory Purchase of the airfield.

The on-site businesses are in the final stages of an appeal against an earlier court decision which said that the landowners, Littler Investments, did not have to offer new leases.

The council's statement says: "The Council is committed to the continuance of aviation at Wellesbourne Mountford Airfield and has approved policies within the Core Strategy to achieve this aim and to preserve industrial land in the district, of which there is a shortage." ■



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WORDS Angus Clarke IMAGES Feroz Wadia

FLYING THE SKIES ABOVE EUROPE

What do you do if you've got two meetings, spaced one week apart that cover some interesting places in Europe? You jump in your plane, plan a route and go on an amazing adventure...



ANGUS CLARKE PPL HOLDER FOR 30 YEARS FLOWN OVER MOST OF EUROPE LONG STANDING MEMBER OF IFFR

B EING a member of the International Fellowship of Flying Rotarians (IFFR) has expanded my flying horizons dramatically. The Fellowship, an offshoot of the International Rotary organisation, links Rotarians across the world who have a common interest in things aviation. The ability to participate in other countries'

activities has opened up fantastic opportunities.

I have written before in the AOPA(UK) magazine of the trips I have made linking two of the Continental IFFR Section's meetings when these have fallen on consecutive weekends. This year the Scandinavian Section had a meeting in the central Swedish town of Linköping. The following weekend the German Section

met at Wetzlar, north of Frankfurt.

Over the years on these trips my wife, Alisma, and I, flying our Robin, have been joined by fellow IFFR member Feroz Wadia in his SportsCruiser. So it was this time. We had to decide where we were going to go. We had been to Poland before and have always found it interesting and GA welcoming, so long as you did your homework. We

therefore decided to go south after Sweden and continue along the western border of Poland before crossing into Germany.

Our overnight stop on the outward leg to Sweden was at Flensburg in northern Germany. This was an easy run from Netherthorpe. Conditions were initially good although the weather did deteriorate across the German Bight. The friendly



tail winds allowed us to fly the 420nm in three hours. Here we met up with Feroz who had come in from the Isle of Wight. Flensburg was a great stopping, off point. The airfield was run in a friendly but efficient way. Self-service refuelling was easy. The town itself had much to offer. There was a gathering of old sailboats in the historic harbour when we were there. The quays, surrounded by pubs and restaurants, had a very relaxed atmosphere.

Next day it was on to Sweden. We flew a more or less direct track, crossing the Baltic from Aarhus in Denmark to Varberg in Sweden. In less than two and a half hours we were landing at the Saab Aircraft factory's airfield in Linköping. As if to welcome us a Saab Gripen thundered off down the runway as we taxied to parking.

The local Section had put on a full weekend programme embracing both local culture and aviation. A visit to the Saab

factory allowed us to get up close to the production of the latest marque of Gripen and also walk around the finished article. Unsurprisingly all photography was forbidden. Local interest was satisfied with guided walks around Linköping, a nearby living museum and the neighbouring historic town of Vadstena. The farewell dinner was held at the exceptional Air Force Museum at Malmslätt where we dined among the historic aircraft. A special part of that Museum is devoted to the story of a DC3 that disappeared over the Baltic in 1952. It was in reality a spy plane. The truth only emerged 50 years later when the aircraft was found 400ft below the sea's surface. The Soviets finally admitted shooting it down.

It was then time to say goodbye to our Swedish hosts. Our destination was Szczecin in Poland some 300nm away. The low clouds at Linköping soon gave way to sunshine. We

were then flying in the clear at FL75 before descending in southern Sweden as the cloud base lowered. About half way across the Baltic on the 130nm leg across the sea to Poland is the Danish Island of Bornholm. As is often the case with an island in the middle of the sea it attracted its own piece of cloud. Clearing the island and the cloud we were soon talking to Gdansk Information. Nothing else appeared to be in the sky as they gave us a direct track to our destination – the Szczecin-Dąbie airfield on the outskirts of the city.

We had chosen Dąbie over the main airport of Goleniów as the latter was 45km out of town. I had done a fair amount of research on Dąbie. I had emailed them in Polish, with the help of a translation app, and got agreement not only for us to land but also to get hangarage. The pilot feedback on

SkyDemon was also helpful. We were warned that the runway and taxiway surfaces were not the smoothest but they were manageable with care and with the stick held well back.

To an outsider the supply of aircraft fuel in Poland seems a bit restricted. We knew that Avgas was not available at Dąbie but the AIP stated that Mogas was. It was not, at least not on the airfield! When Feroz asked a local flyer if he would sell some of his own stock the answer was a polite no. He said that if he did he could be liable for a substantial fine. He did, however, lend Feroz some cans to take to a nearby petrol station.

While Szczecin, or Stettin as it was called prior to end of the Second World War, is not a tourist town there is much of interest in it. We had planned our two days well. The cathedral was first on the list. It had been left in ruins in 1944, and restoration





COLDITZ, GERMANY: Visiting the historic castle with memories of childhood



ALTENBURG, GERMANY: One of the nicest greetings for the entire trip



FLENSBURG AIRFIELD: The SportCruiser takes a well-earned rest

eventually began in 1971. It has continued since then in stages and even now is not complete.

The Old Town is dominated by the Dukes' Castle, originally built in 1346 with additions over the years. Completely destroyed during WWII, reconstruction has been completed to perfection. The main courtyard houses a clock tower which displays an astronomical clock much like one that we had seen in Prague. Stare Miasto is the city's oldest district. Rynek Sienny, or Hay Market Square, is full of colourful buildings showing off traditional Polish architecture. Dating back to the 15th century, the buildings were completely ruined during the war but were brought back to life in the 1970s. Here we enjoyed a very pleasant evening meal washed down by a litre or so of the local brew.

A curiosity was the Underground City Trail. This is the biggest civilian shelter in Poland. Constructed just before WWII it is located under the main railway station. Five floors deep, it was built with reinforced concrete and could accommodate five thousand people. The entrance was a bit like Harry Potter's Platform 9¾ at Kings Cross. We went to Platform 1 and then descended a series of steps to find the

opening to the tunnels. These were well presented and recreated what it was like under sustained bombing. Also here was a tribute to the Polish pilots who flew for the RAF in the war.

From Szczecin we planned to go south to Zielona Góra. The AIP for the nearby Przylep airfield stated that Avgas was available there, but the airfield's website said it wasn't and an email exchange confirmed that it wasn't. For the Robin it meant a 40nm dogleg south to Leszno. Strictly speaking Leszno did not offer fuel either. What it had was a normal roadside filling station adjacent to the airfield fence. We parked at the fence and walked through a gate to the filling station. An attendant returned with us and operated the Avgas pump at the side of the fence. A very convenient way of refuelling.

In a sense we didn't choose Zielona Góra, it chose itself. We had been looking for a suitable Polish stopover en route from Szczecin to Altenburg in eastern Germany. Zielona Góra turned out to be a gem in all respects starting with Przylep airfield. The 720m runway with a width of 180m enables gliders to be launched on its south side while powered aircraft operate at the same time on the north side.

Zielona Góra is at the heart

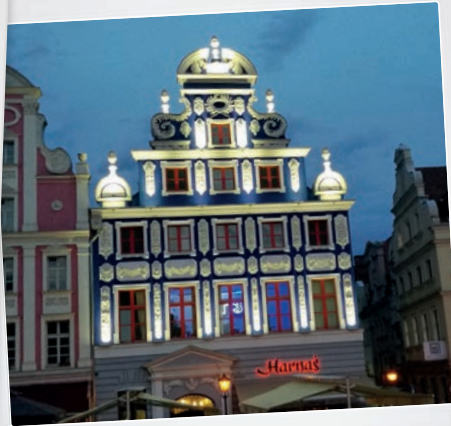
"The Old Town is dominated by the Duke's castle, originally built in 1346 with additions over the years"

of the Polish wine industry. Bacchus, the Greek god of wine, is given symbolic keys to the city by its mayor in September each year. For a few days he wields absolute power in this "City of Wine". As we wandered through its pleasant streets we noticed a series of small metal sculptures that were all related to Bacchus. The town's museum even linked two unlikely bedfellows, wine and ancient torture. Unlike British towns where bank branches are being closed left, right and centre, there appeared to be a bank on every street corner and a moneychanger in every alleyway. We wondered why. Closeness to the German border might be the answer but we won't go there! Yes, Zielona Góra was an interesting place and merited more time than our afternoon and evening allowed.

Next stop was Altenburg over the German border. The airfield is of ex Eastern Bloc Cold War vintage with a long runway and hardened aircraft shelters. It had a brief life as a Ryanair destination – Leipzig Altenburg. Unfortunately one night in 2010 a landing Ryanair aircraft could not raise the tower and had to divert 100 miles away to Berlin. Someone had screwed up the controller rostering and the tower was



ZIENLONA, POLAND: The city is filled with these statues; all have a link to wine



SZCZECIN, POLAND: The final destination of the trip - and what a destination



LAUSTIZRING GERMANY: The historic motorsport venue en route to Altenburg

unmanned. Ryanair moved their operations to the main Leipzig airport the following year and that was the end of scheduled flights. The terminal building remains empty. That was in the past and the welcome we received from those in a tower brightly decorated with "pop art" could not have been surpassed. We were immediately offered hangarage at a very reasonable rate and a taxi was arranged.

Altenburg is a very attractive market town. While much of it has been restored since the reunification of Germany there are still remnants of communist times with derelict buildings. As we walked across the market square we came across a plaque in the road that recognised a son of the town, Melchior Bauer. In the mid eighteenth century he wrote perceptively: "For just as God has given us the instruments to travel across water, so he can also give us the instruments to go in the air." By 1765 he had designed a glider – he then travelled across Europe in search of the funds to build it but without success.

Pleasant though the town was, it was not the reason we were there. It was because Colditz Castle was only 25 miles away. I was one of a generation that grew up with black and white war films that invariably starred

John Mills. Colditz stood out amongst these. The building is now less forbidding than it would have been in the 1940s. Its external walls have been painted white in contrast to the earlier ominous grey. Here we had the privilege of being guided by a really knowledgeable German. Having been educated in England until he was 18, his English was perfect. While life in the camp would have been no holiday, the ingenuity of the prisoners ensured that they were never bored. An acquaintance of mine who had been held at the Great Escape camp of Sagan told me that there was never a dull moment during his time there. So it would have been with Colditz. That is not to understate the privations that were suffered. Undoubtedly the highlight was our climb to the loft where the famous glider was constructed. In this the Germans were almost the authors of their own misfortune. As part of the service to the prisoners they had provided an extensive library which included a two volume work entitled "Aircraft Design"! This absorbing visit would justify an article by itself but I will have to move on.

From Altenburg we flew to Siegerland. This is one of my favourite airfields, being unfussy but comprehensive in its service.

"Pleasant though the town was, it was not the reason we were there. It was because Colditz Castle was 25 miles away"

The German IFFR meeting was centred on the nearby town of Wetzlar. Our German friends had laid on a full programme. Wetzlar, with its links to Goethe, the German writer and statesman, has an impressive medieval city centre. The town is also well known for its optical industry. At the Leica facility we gained an insight into the production of modern cameras, in particular their lenses. The physical controls necessary to produce the perfect lens are mind boggling. The weekend was completed by a visit to nearby Limburg. It is a town with a particular charm, with its picturesque half-timbered old buildings and its cathedral.

It was then time for the journey home. We threaded ourselves to the north of Köln-Bonn, to the south of Düsseldorf and then overhead Eindhoven until we reached the Dutch coast south of Rotterdam. It was then a straight run back to Netherthorpe. We had enjoyed a wealth of experiences in the 1900nm flown in twelve days. We had visited an historic port, seen a state of the art aircraft factory, a near Harry Potter experience, sampled a country's wine capital, had visited an iconic WWII site and had been charmed by old German towns. Such is the freedom that flying gives you. ■



IMAGE: Henry Simpson

WORDS Henry Simpson IMAGES Various

Time for a celebration

It was a huge year for the RAF in 2018. Here, we take one final look at the celebrations that took part over the summer to honour this historic occasion. Enjoy...

FOLLOWING on from the last issue where I covered the “national” celebration for the RAF’s Centenary in London, we now look at the “international” celebration at the Royal International Air Tattoo (RIAT) at RAF Fairford. This promised to be a very large show with participants, both flying and static, from many foreign air arms.

This was an event following on the heels of successful 2017 USAF 70th anniversary show, and had been built up to for several years; the RAF 100th anniversary airshow had been highly anticipated and eagerly awaited by many for the past 10 years! Combined with RIAT raising the bar and expectations ahead of this year’s show, it was set to be, for many, the highlight of aviation events for several years.

The eastern end of the approximately two-mile-long flightline consisted of a mostly Royal Air Force theme with a large “RAF Village” close to static examples of most of the RAF’s current inventory. This included many aircraft adorned with the

“RAF 100” tail sticker that had taken part in the flypast a few days previously. Historic aircraft featured in the static display included the (rarely seen away from base) Avro Tutor and Hawker Fury, representing the inter-war era. The resplendent Bristol Sycamore also visited from its base in Austria, where it is part of the Flying Bulls collection, to partake in the RAF 100 celebrations. It is the sole flying example of the first certified British Helicopter and it was a highlight of the historic line-up, wearing RAF Transport Command colours, as did the Percival Pembroke situated next to it. The Sycamore was not the only historic helicopter present; the only flying Westland Whirlwind joined the line-up, covering the RAF’s search and rescue heritage. Classic jets were represented in the static display too with Jet Provosts, a Folland Gnat and two Hawker Hunters from Hawker Hunter Aviation at Scampton, which still earn their keep in the threat simulation role. An example of the RAF’s first operational jet aircraft was also present – a Gloster Meteor Mk7 from Martin Baker. This aircraft

had been assembled in 1949 as a T7 trainer but was converted for ejection-seat testing in 1962. It continues to be used for testing today as the aircraft’s forward and widely spaced engines are said to be ideal to prevent ingestion of rocket-motor efflux and debris. The aircraft was there not only for the RAF’s anniversary but also as part of a recruitment campaign.

In addition to the classic and more-modern types was a very notable static display item: a General Atomics MQ-9B Sky Guardian or “Protector” as it will be known in the RAF. To take part in the RAF 100 line-up the aircraft had carried out the first transatlantic flight by a remotely-piloted aircraft, flying for 3,760 miles from its base in North Dakota to Fairford in 24 hours. The Protector is the latest in a long line of types from General Atomics and has a bigger wingspan, longer endurance (over 40 hours) and a larger payload than the preceding Reaper. One of the big changes though is that it is a certifiable aircraft. I spoke to Ange Blue, the transatlantic programme manager for General Atomics, about the aircraft and

its milestone trip. "It's been built from the ground up to be certifiable for use in civilian airspace, both national and international. Some of the key changes here include the addition of things like lightning protection," said Blue. I asked her about the biggest challenge that faced the team in getting the aircraft to the show. "Airspace approval... but big kudos to the CAA for allowing us," she said.

The aircraft had to have its own airspace corridor closed off for its route through UK airspace. The aircraft, although a civilian "Sky Guardian" model, was decorated in No. 31 squadron RAF colours to signify the aircraft's future use by the RAF; operations will be based at Waddington.

A further glimpse at the future of UAV technology came in the form of replicas of Northrop Grumman's impressive, stealthy X-47B jet UAV and MQ-8C Fire Scout UAV helicopter, both of which also sported the red RAF 100

stickers. Blue also stated that: "The show is great, it's good to see all those aeroplanes and lots of interested people."

Indeed RIAT's impact and popularity among participants is a key driver for why RIAT has been so successful over the years – a sentiment that was shared by many of the crews, not least that of the US Navy's E-6 Mercury command-and-control aircraft. This was a type that was making a welcome static appearance and is rarely seen at shows. The E-6 is a Boeing 707 converted to serve as airborne command and control for the US Navy's submarine fleet in the event of war. The analogue cockpit has since been converted to glass, but it has been EMP (Electro-Magnetic Pulse) hardened to withstand the effects of nuclear detonations on the electronic systems. I spoke to Kirby Williams from the crew, who were visiting from VQ-4 Squadron based at Tinker AFB in Oklahoma. "Hospitality on landing was fantastic," he said.

"The flying display was packed with international acts including tactical demonstrations"

"We've had a good time so far, ready to kick the show off and begin the festivities."

The flying display was packed with international acts, including tactical demonstrations from both the French Air Force's Couteau Delta Mirage 2000 display team, and the French Navy's pair of Rafale M Naval fighters. The French have a long tradition of excellent pairs tactical displays and these well-flown routines were no exception. The Royal Norwegian Air Force Historical Squadron provided a vintage element to the flying programme – a display by a pair of de Havilland Vampires. The two aircraft were adorned this year in RAF markings for the centenary, and their appearance was most welcome, not least as classic jet displays have become a rarity on the UK circuit. The sight of two silver RAF-marked classic jets gracefully looping in the blue to the whistle of the early Goblin jet engine must have rekindled memories for many of those present, and it presented



IMAGE: Henry Simpson

The Ukrainian Ilyushin Il-76 transport plane was part of the static display



Over 185,000 aviation fans came to see more than 300 aircraft during the three-day event

a welcome element of the programme. The Great War Display team also contributed to the flying display with a mock WWI dogfight, complete with pyrotechnics including "archie" to signify the establishment of the RAF when the new force was formed during the First World War, and thus immediately in battle from its first day. 2018 of course also marked the 100th anniversary of the armistice at the end of the Great War, so it had been an exceptionally busy year for the team.

The bread and butter of any RIAT show is often the fast jet, and this year was no exception with multiple displays including three F-18 Hornet demos. They were superbly flown and it was the Finnish F-18 display that was awarded the Sir Douglas Bader Trophy for best individual flying demonstration. The Turkish F-16 claimed the award for best fast jet demo, despite close competition from other displays such as the superlative Swiss Hornet and the astounding French Rafale

"The Canadian Hornet display, which was making its first visit to the UK in 10 years, picked up the best paint scheme"

Demo. The Canadian Hornet display, which was making its first visit to the UK in 10 years, picked up best paint scheme award for its NORAD 70 colours and the entire Canadian contingent was presented with the chief executive's award from Andy Armstrong for their commitment to the show with a C-17 and C-130J on static display and the Hornet in the flying display.

One notable item was the "surprise" appearance by a B-2 Spirit stealth bomber on the Saturday of the show, which gave a fly-past flanked by F-15's from Lakenheath. The aircraft took a round trip non-stop from Whiteman Air Force base in Missouri, a flight that lasted some 20 hours, as part of a global power training mission. It was a welcome addition and the B-2's other-worldly shape certainly makes the crowd stop and stare. This wasn't the only participation from the USAF in the flying. Their F-35A took part in the flying display – a unique addition of their Heritage Flight

– at the show in honour of the RAF100th. The F-35 made three passes flanked by a Spitfire Mk V and a P-51D Mustang, both aircraft owned by Comanche Fighters in the US. The Spitfire was making its first display appearance in the UK since returning from the USA while the P-51, 'The Hun Hunter', was shipped over to the UK specially to participate in the weekends two events – RIAT and Flying Legends at Duxford. After their formation segment all three aircraft made further passes.

On the Friday of the show, when it hosted a Royal Review of the RAF by HRH The Duke of Kent, a section of the London Mall fly-past was due to be restaged. However despite being in the midst of a heatwave, bad luck did strike and a passing storm brought in rain and obscured visibility for the brief period when the fly-past was due to occur and it had to be cancelled. This disappointed many people as this would have been the only other chance to see the 22-ship

The Ukrainian
Air Force Sukhoi
SU-27 Flanker
was our writer's
favourite



IMAGE: Ashley Townsend

Typhoon "100" formation. On the Saturday and Sunday of the show however the RAF did manage to provide a fly-past by a diamond nine formation of Typhoons.

Aside from our own Red Arrows who were able to perform their full display on all three days of the show, finishing with the drawing of "100" in red, white and blue, four other national display teams appeared from Spain, Jordan, Switzerland and Italy. The Swiss PC7 team gave a particularly well-flown and neat display including a formation with their F-18 Hornets. But it was the Italians whose Frecce Tricolori came as part of a large contingent and always put on a crowd-pleasing display. Their straight wing MB-339 jet trainers give real presence for their formations and the red, white and green smoke is considerably thicker than that of many of their counterparts. The display features a solo pilot who performs manoeuvres unfamiliar to most jets, including

"The display features a solo pilot who performs manoeuvres unfamiliar to most jets, including a tail slide and lomcevac"

a tail slide and lomcevac, whilst the smoke from the main formation, always accompanied by a rousing piece of Pavarotti, stained the sky and created coloured bands in the evening haze. One of the goals for the RAF's 100th anniversary has been STEM outreach and that has been present at almost all of the associated events, not least at RIAT, where a whole section was dedicated towards it and tickets for under 18s were made free for this year. One organisation that's been playing a role in STEM outreach is The Air League who partnered with Boeing on the Centennial Wings project. I spoke to Bridget Donaldson from the Air League about the project. Now entering its third year the enterprise allowed ATC cadets to assemble a kit Sting S4 ultralight. "It's been a great success and good to have a partnership with all three organisations," she said.

On the Saturday of the show the aircraft was inspected by AOPA Lennox-Boyd Trophy

holder Carol Vorderman, who is an honorary Group Captain and Ambassador for the cadets. One of the great aspects of RIAT that was particularly evident this year is outreach to the public.

Many of the RAF and foreign static aircraft are opened up for the public to view, with types such as C-17's and C-130's free to walk in, and other aircraft such as the E-3D Sentry and KC-10 attracting queues. Those rarely-opened aircraft had crew members at the ropeline engaging with the crowd, answering questions and talking about their work and time at the show. This personal touch to the event really makes it more engaging, providing rare opportunities to view modern military hardware and meet a wide range of personnel from around the globe – with USAF and RCAF personnel proving exceptionally hospitable to the public. The static line up overall still contained some 10 C-130s and a plethora of other heavy types, including three A400M,



More than 30 nations took part in the celebrations, covering a huge range of aircraft from across the years

three C-17 and another piece of future RAF hardware, the P-8 Poseidon. A static debut to the UK was the Japanese Kawasaki C-2 transport, used as the strategic airlifter role for the JSDF (Japanese Self Defence Force) which can carry up to 110 people and a variety of cargo. The similar Embraer KC-390 was also making its first appearance at the show and was visited by delegations from nations considering purchasing this new type. A potential piece of future RAF hardware was also present in the form of the E-7 Wedgetail from the Royal Australian Air Force, sporting a special RAF100 decal featuring the roundels of both the RAF and RAAF.

Back to the flying display though and the Airbus A400M gave its usual spritely display. For an aircraft of such size it is an impressive performer, finishing its routine with a 120-degree angle-of-bank wingover. Such displays may have their days numbered though, as the test programme is gradually wound down.

"The Airbus A400M gave its usual spritely display. For an aircraft of such size it is an impressive performer"

The last of the special fly-pasts for the RAF's centenary featured another old and new combination. This time it was the 617 Squadron fly-past as this year the squadron celebrates the 75th anniversary of the Dambusters raid in May 1943. The squadron, the first to fly the new F-35B in RAF service, sent one of its aircraft to fly alongside the Lancaster and an example of their former mount, the Tornado GR4. It was another impressive sight and one that was complemented by a final unrestricted climb away by the Tornado with wings fully swept and a demonstration by the F-35 of its hovering ability. The deafening sound of the aircraft as it hovered up and down the crowd line was reminiscent of the prematurely retired Harrier, and indeed it is an impressive capability to see in any jet aircraft.

Whilst many may have viewed that as a highlight, it was the Battle of Britain Memorial Flight's (BBMF) routine that stole the show and saw them

awarded the King Hussain Memorial Sword for best overall flying demonstration. For the 2018 season they have been displaying as "Trenchard formation" with the flight's Dakota joining in with the usual Lancaster, Spitfire and Hurricane. This makes for an impressive routine with the Lancaster and Dakota displaying together in tight formation. However after weather forced the fly-past to be cancelled on Friday, more of the fighters remained at Fairford on the Saturday so they staged the unique 'Trenchard Plus' formation. This consisted of the Lancaster and Dakota along with two Hurricanes and three Spitfires in a resplendent seven-aircraft display performance – by far the largest I have known the BBMF to do and it certainly made for some impressive photographs.

My personal favourite was the appearance of the Ukrainian Air Force Sukhoi SU-27 Flanker – still a very rare machine to



IMAGE: G. Brudenell Aviation Images



IMAGE: G. Brudenell Aviation Images



IMAGE: Shaun Westall

see in the west. It's impressive that despite facing an ongoing insurgency in Ukraine the aircraft was sent to the show. It came alongside a second two-seat example and Ilyushin Il-76 transport that adorned the static display park and received a very welcome reception. Although an older model without the modern thrust vectoring, the big jet really does put on a fantastic display. The large size of the aircraft for a fighter is very apparent, which makes judging its speed in flight difficult for any opponent. The large conspicuous afterburners that erupt from the Saturn AL-31 engines make it particularly impressive and despite entering service in 1985 there are no plans to replace it. The routine included no less than two tail slides. However, on the Friday of the display, as the aircraft came out of a turn and into a slow speed approach facing the crowd, it got rather low over the hangars on the northern side of the airfield and a few people certainly briefly considered what

"I managed to spend 12 hours there on both Friday and Saturday and there was still more to see"

they would do should it drop a few feet further!

In total the show attracted a record crowd of 185,000 people, with 302 aircraft present from 30 countries. There really was a lot to view at RIAT. I managed to spend 12 hours there on both Friday and Saturday and there was still more to see. It was a fantastic celebration of the RAF's 100th and I highly recommend visiting the show in the future. This year's event on 19-21 July will celebrate the 70th anniversary of NATO, and 2020's will celebrate the 80th anniversary of the Battle of Britain.

However, whilst the show was a bit larger than some recent RIATs and ran for an extra full day, it did not meet many of the expectations that had, rightly or wrongly, been placed upon it for the centenary. The organisers had marketed it to stand out as markedly different from other Air Tattoos and I felt it didn't. Whilst a large show, it was not too dissimilar from previous events and many of

the expected appearances by various air arms in support of the RAF 100th did not materialise. This aside though, it was still fantastic.

Whilst the RAF 100th celebrations may have seemed a little low key, the RAF faces budgetary restrictions and its decision to utilise existing shows such as RIAT to host its official events was undoubtedly the right one, since it allowed the RAF's available budget to focus on providing aircraft. The events have succeeded in presenting the RAF to a wider audience and have, against the odds, fought to do justice to the service's anniversary.

A 100th anniversary is a once in a lifetime occasion and raising 103 aircraft down The Mall was a significant feat that demonstrates that the RAF's "can do" spirit still remains after a remarkable 100 years. Indeed, I was proud to have witnessed such a momentous occasion and there can be no doubt that this year's RAF centenary events have been a great success. ■



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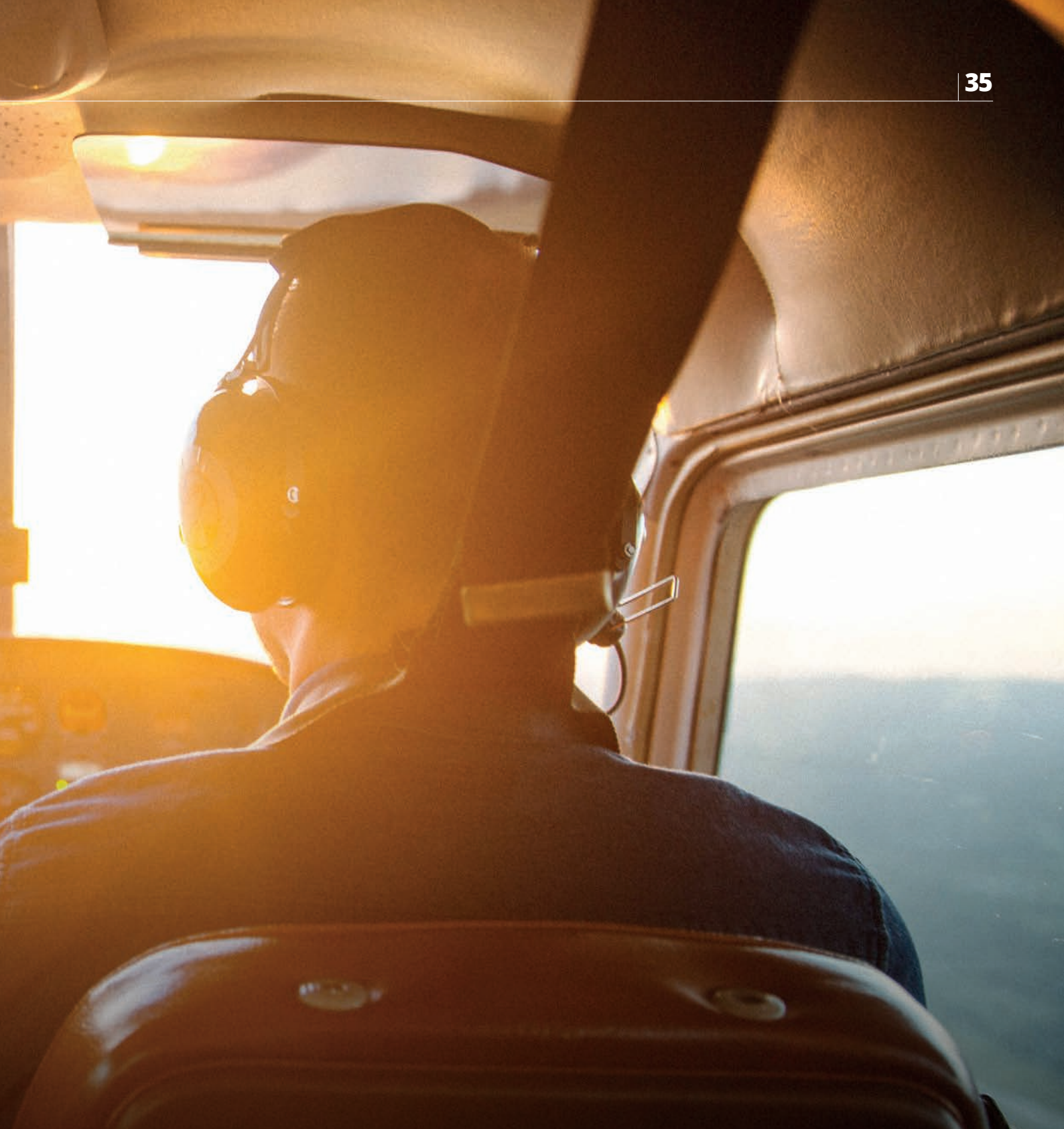
WORDS Nick Wilcock IMAGES Various

TRAINING TOPICS

It seems that not everybody is on the same page when it comes to the finer points of training potential PPL holders, so we need to align



NICK WILCOCK BOARD DIRECTOR IAOPA FCL REPRESENTATIVE AT EASA **FORMER RAF PILOT**



TA RECENT FI seminar, it was rather worryingly obvious to me

that some of the more esoteric points of Part-FCL aren't that familiar to some instructors. The main reason being that, what might seem to them to be common sense and

perfectly permissible, isn't actually allowed under current regulations. Here are a couple of examples:

CHANGING COURSES

LAPL students changing to PPL courses: as PPL-holding FIs should know, to provide instruction at PPL level it is (currently) necessary

to have passed the CPL exams, whereas to provide instruction at LAPL level there is no such requirement. Although there are certain prerequisites to be met, the FI course is the same for all FIs, no matter whether they will ultimately be restricted to LAPL-only level or not. Equally, the content of most

of the LAPL(A) course is much the same as the PPL(A) course; stalling is stalling and circuits are circuits for both licence levels, for example. But what if a LAPL(A) student decides at some point that he/she wants to change to a PPL(A) course instead? Will all previous LAPL(A) training, whether dual or supervised

solo, be credited to the PPL(A) course? Common sense would assume that of course it would, no matter whether or not the student had been trained by PPL FIs restricted to LAPL-level only. In 2013 I put this to the EASA TAG/SSCC/FCL meeting and all delegates agreed that this would be fine and indeed EASA is on record as stating that "The Agency will include this issue in the future Rule Making Task 'updating Part-FCL'". However, when the UK CAA asked for this to be confirmed some three years later, EASA stated that only LAPL(A) training which had been given by an FI who was not restricted to LAPL-only instruction would be accepted under such circumstances.

So the current position is that, if a LAPL student has been receiving instruction from an FI restricted to LAPL-only instruction, then to convert to a PPL he/she must first finish the LAPL course, pass the Skill Test and receive

the licence, then complete the 15-hour upgrade course required under FCL.210.A(b) as well as passing the PPL(A) Skill Test.

However, I understand that some other EASA Member States do allow any previous LAPL(A) training, no matter whether or not it was conducted by a LAPL-only FI, to be credited for LAPL(A) students who decide to change to the PPL(A) course. As I have now been appointed by IAOPA (Europe) to represent our interests on an EASA committee, I intend to lobby other committee members to persuade EASA that it must accept its previous TAG/SSCC/FCL commitment. This would be entirely in line with the 'simpler, lighter, better' mantra of EASA's GA Roadmap and would clearly be of benefit to the flight training industry.

NIGHT FLYING

Night flying during LAPL(A)/PPL(A) training: in JAR/FCL

"However, I understand that some other EASA Member States do allow previous LAPL(A) training no matter whether it was conducted by a LAPL-only FI"

days it was quite common for Night Qualification training to be conducted during a PPL(A) course, so that after passing the PPL(A) Skill Test, applicants could apply for a PPL(A) which included a Night Rating. But under Part-FCL this is no longer permitted. Applicants must first complete the LAPL(A) or PPL(A) course, including passing the Skill Test. Only then may they train for the Night Rating, before applying for the licence to be issued, with a Night Rating. This won't reduce the cost to the applicant as the CAA will charge exactly the same fee it would have levied, had application for the Night Rating been made separately. But it will provide some benefit to the applicant in terms of convenience and reduced risk of licensing paperwork getting lost in the post.

The applicant can also continue to fly either dual or solo under FI supervision, either by day or night, whilst

BELOW: Getting your Night Rating has confused some FIs over the years





waiting for the CAA to process his/her application.

But this is yet another piece of *Eurocracy* which I intend to challenge. ICAO requires only that a PPL applicant has successfully flown 40 hours total time, including 10 hours solo, before applying for a PPL. Indeed, for 'approved courses' such as the one I completed at Cranfield in 1968, the figure is only 35 hours total time. Whereas for the PPL(A), EASA requires 45 hours, of which at least 25 hours must be dual and at least 10 hours solo, which means that the other 10 may be either dual or solo. Similarly, for the LAPL(A), EASA requires 30 hours total training, of which 15 must be dual and six solo, with the remainder being either dual or solo.

However, unlike the requirements for helicopter night flying, there is nothing in the Night Rating requirements of FCL.810(a) which requires the Night-Rating applicant to have already held a LAPL(A)

or PPL(A). The aeroplane or TMG Night Rating course comprises only five hours of night training, of which three hours must be dual; indeed at many times of year it is possible to complete a Night Rating in two to three nights. So I will be proposing to our EASA committee that, provided the mandatory dual and supervised flight time stipulated for the LAPL(A) or PPL(A) has been completed under Day VFR, night-flying training may also be conducted during the relevant course. This would give greater purpose to the 'spare' 10 hours (PPL) or nine hours (LAPL) and would provide a significant cost saving for the student. Perhaps those very nice people at Gatwick might also review their licensing fees if such a combined course was accepted?

For those who've never tried it, night flying can actually be rather pleasant as the air is often less turbulent, there are fewer other people about and provided you don't tell

ABOVE: Should a LAPL (A) student be able to transfer over their hours if they change courses?

"Night flying can actually be rather pleasant as the air is often less turbulent, there are fewer people about and provided you don't tell it that it's dark, the engine of an SEP/TMG is no more likely to fail"

it that it's dark, the engine of an SEP/TMG is no more likely to fail than it would by day. Some of my more timid RAF QFI colleagues thought that night flying in the Bulldog was quite hazardous as forced landings would be nigh-on impossible. That wasn't really much of an excuse given that flying down to a 200ft Decision Height in IMC never seemed to give them any such qualms!

You'll notice that I haven't made any reference at all to the looming uncertainty of UK membership of EASA if any forthcoming UK/EU exit fails to be on negotiated terms. That's quite simply because whatever benefits might come from changing EASA policy as I've described would then be 'copied and pasted' into whatever UK Statutory Instrument would replace EU regulation, should a 'no deal' be the regrettable and damaging outcome of the daily-changing mayhem we're suffering at the time of writing. ■

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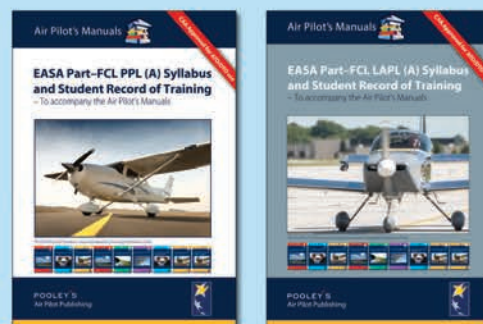
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The watch manufacturer announces the arrival of its second airline-based Navitimer, honouring Pan Am

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BREITLING recently launched its first capsule collection – the Navitimer 1 Airline Editions. The first watch honoured Swissair, the former national airline of Breitling's home country. The second member of the collection honours a true American legend, Pan Am.

Breitling's first capsule collection captures the spirit of a memorable time for commercial flight and revives the cool and evocative style of the 1960s and 1970s. The Navitimer 1 Airline Editions pay tribute to the pioneers of civil aviation and celebrate some of the most emblematic airlines of the era.

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THE VIEW FROM THE OTHER SIDE

David Ogilvy enjoys a thrilling read with *Alarmstart*, the German pilot's experience of fighting in World War II

Book *Alarmstart*

Author Patrick G. Eriksson

THIS is a substantial book, the result of vast research based on written and personal contact with veterans in the 1980s and 1990s, by which time many were already ageing. Despite the stress and sufferings, some said that it feels like a dream – 'the unforgettable beautiful dream of flying', but veterans who defended their country feel neither appreciated nor understood by the successive generations.

The fighter pilots lived for the day and most thought that disaster would not overtake them. The few who did were the first to die. Skill, training and experience played key roles in the survival rate, but none would live on without sensational luck. Many of the pilots realised that without such experiences they would not be the men who they are. Also, they were stressed by the numerical superiority of the Allies. Most took no glory in the demise of their opponents; one had shot down 33 and was not at all proud to have done so.

The book examines the pilots' views of the German aggression to Poland in 1939, the intense battles over France in 1939-1940 and, of course, the Battle of Britain that was so critical to both sides. With the invasion of Russia in June 1941, the German fighter strength in the west was drastically

reduced and slimmed even further to cope with Allied operations in the Mediterranean. There was immense respect for the success of the P-51 Mustang, especially its long range that enabled it to provide strong fighter support to the Allied bomber force. Surprisingly to this reviewer, there were many references to the Mustang's superiority over the Focke-Wulf FW 190, which had earned itself an enviable reputation on the UK side of the channel.

This is a vast volume and is not – nor is it intended to be – comfortable bedtime reading. Not only that, but the author tempts anyone

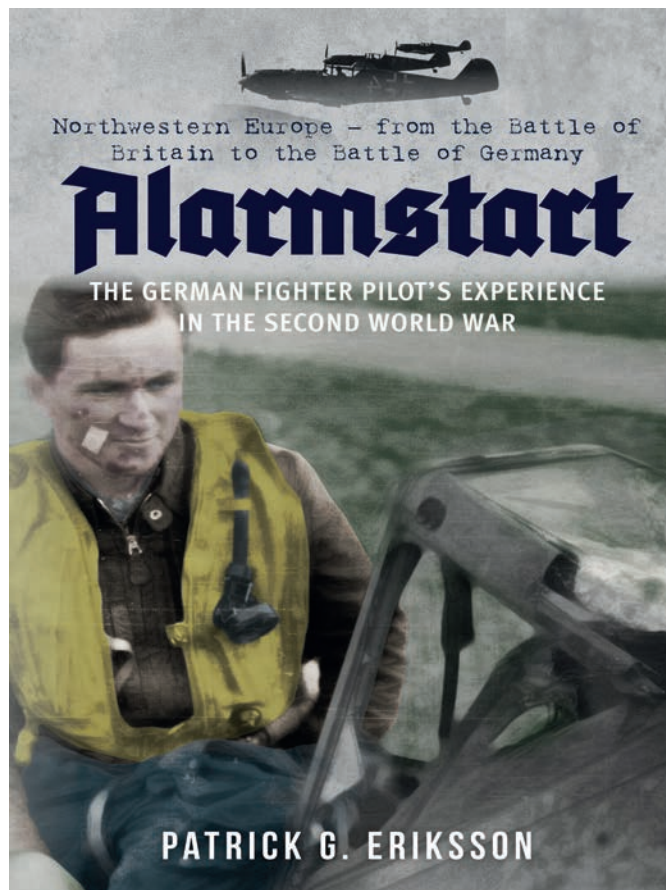
sufficiently interested in such matters by promising two more volumes, one of which has now been published: *Alarmstart East*.

Despite the stresses and dangers faced by the Luftwaffe's pilots – especially as they were always outnumbered – many enjoyed the pure pleasure of flying, especially when doing so at very low level along the beaches, or indulging in a session of aerobatics. How understandable.

There is much more to find here and one easy way to do so. Read it! ■

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TALES FROM THE BATTLE

Book *Battle of Britain Voices*

Author Jonathan Reeve

This is very similar to *Alarmstart*, but focuses on the Luftwaffe pilots that flew in the Battle of Britain.

The quality of first-hand accounts left by the Battle of Britain fighter pilots is astonishing. Many were written in the midst of the epic air battle: a hastily-jotted-down diary, letters written to young wives, a contemporary interview with a journalist or a radio broadcast, and most poignant of all, the short books that were written to pass the weeks stuck in hospital whilst recovering.

This is the first book to collect together substantial accounts to give a true idea of the exhilaration of being in a dogfight, the harrowing experience of being trapped in a burning cockpit and the mental stress of day after day of the maelstrom of air fighting. Far better than any single narrative, the 'voices', together with photographs, build up a complete picture of the Battle of Britain as it was experienced by those who took part in it.

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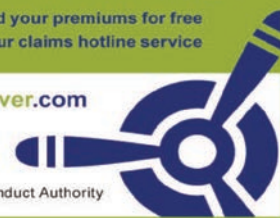
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