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Henry Simpson investigates what it takes to put on the Royal Air Tattoo

CODE OF PRACTICE

George Done explains how AOPA's Maintenance Code of Practice can help you

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Nick Wilcock breaks down the confusion about what you can and can't do with an LAPL



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WELCOME TO THE NEW CHAIRMAN

LET ME introduce myself. In 1981 I had my first flight in a light aircraft at Biggin Hill. My then boyfriend had just completed his PPL in a Cessna 152 so I found my way to Croydon station by public transport. I didn't drive or have a car at the time; it was just after I'd finished university in London so I had no need of a car. I recall enjoying the experience more than I had expected since at first sight the aeroplane had looked rather small. The following weekend we went gliding at RAF Bicester which is when I really became addicted to flying. I'll never forget the thrill of that first winch launch – I had to do this. This was flying that was accessible, both in monetary terms and transport. The whole community spirit of gliding meant I was never short of a lift out of central London on a Friday evening nor a lift back on the Sunday.

Thirty-eight years and many flying hours later I find myself the new Chairman of your AOPA UK. Why? Because I joined three flying membership associations, I was a member of the British Gliding Association through my gliding club, the British Women Pilots' Association, and when I gained my PPL in 1987, I joined AOPA. These three associations were aligned with my interests in recreational flying.

Over the intervening years, I have been fortunate enough to be able to continue to afford to fly. So when I decided to call it a day on my corporate career in the IT sector, I decided to follow my lifelong passion for all things aviation.

You will no doubt have seen in this magazine that I chair both the Members' Working Group and the Corporate Members' Committee for AOPA, two of our membership constituencies. A few years ago, this led me to campaign to save airfields in the UK from becoming housing estates – work that I still continue as a member of the Airfields Working Group of the All Party Parliamentary Group for General Aviation together with my AOPA board colleague John Walker.

So enough about me. Having been a board member myself for eight years I want to thank George for leaving me a board of very active members, each of whose different skills and contributions are invaluable to the running of a membership association which relies on its volunteers.

The GA sector is facing a number of challenges, possibly more than at any other time in the history of flight. The success of the UK's Commercial Air Transport sector is putting pressure on the others who also want to have access to and use the same airspace, airfields and resources. At the other end of the scale, drones provide another challenge with their integration into the existing aviation environment.

I want to ensure that AOPA retains its leadership position in protecting the rights and privileges of its membership. That's you. Whether that's on a personal basis, if you'd had an airprox and need some help and guidance, or on a collective basis, when we're all wanting to keep the IMC Rating. In order to continue to achieve this, the association needs resources and that starts with you, our membership, and your contribution. If you're reading this, I hope you're already a member, thank you. If not, please consider joining us. ■



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EDITOR'S MOMENT

It's fly-in and air show season — feels like it's been far too long, doesn't it? So it's time to get back in the aircraft and rediscover why you became a pilot.

This issue is here to help you with flying and making sure your aircraft is being looked after to the highest possible standards. Turn to page 14 to see how AOPA's Maintenance Working Group has created a Code of Practice for maintenance organisations to adhere to.

Nick Wilcock is on hand to clear the muddy waters of the LAPL; we also explore how you can obtain your UK Seaplane Rating.

And we've got Aero Expo coming up on 13—15 June at Wycombe Air Park. AOPA will have its usual tent and stand there, so come and say hi, have a cup of tea, and chat about anything and everything aviation. And if you're bringing a friend with you, get them to sign up to AOPA so they can start enjoying the benefits of being part of the organisation. Blue skies.

David Rawlings

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MEMBERSHIP MATTERS

I THOUGHT I would begin by referring to the work of the General Aviation Safety Council (GASCo). Earlier this year I was invited to join the board of GASCo as the AOPA representative. If you have not yet been to a Safety Evening I can recommend it.

GASCo is a registered charity and as such it relies on donations. It was originally the case that the CAA would match the level of funding received from 'industry' and it is basically the same today. In recent times GASCo has taken on the role of providing the airspace infringement awareness course, which you may be asked to attend should you infringe airspace. This approach to infringements is what AOPA has been asking for, for many years, as education about not infringing is better than fines being swallowed up by the court system.

THE CAA

Another group aligned to this is the CAA's Airspace Infringement Working Group. Again this is the regulator working together with industry towards reducing the number of infringements. Whilst the overall numbers have gone up, this may be due to increased reporting. The number of risk-bearing events appears to be falling. However there is no such thing as a minor infringement according to CAA/NATs. Whilst that is understood, it's a difference between the possible impact on another airspace user or not – and this relates to the safety impact. AOPA is not condoning infringements but merely stating that the differences need to be understood and responded to proportionally, as we know some pilots are turning off transponders for fear of setting off an alert. After many years of dealing with infringements I can say that insufficient or incorrect planning is most likely to lead to an infringement, combined with poor monitoring of the progress of the flight. Not taking proper account of weather and NOTAMs can also lead to problems, therefore proper detailed planning is key to a successful flight. If for any reason it all goes wrong make a note of what happened, explaining why you think it went wrong and keep it safe. Also contact AOPA before you

"If for any reason it all goes wrong, make a note of what happened, explaining why you think it went wrong and keep it safe"

speak to the CAA or NATS.

I am also concerned that the CAA, in some instances, is being a bit heavy-handed. In the past, giving a pilot a formal caution was considered an appropriate response, but adding to that a temporary suspension of licence, a requirement to do five hours of additional flight training and attend the infringement course, may be seen as an abuse of power.

Where the CAA acts as judge and jury on airspace infringements AOPA will only support reasonable proportionate action taken by the CAA. So if you need to send a written response to any authority be careful with the language you use as words have significance. There is a reason why the police use a caution before they question you, reminding you what you say can be used as evidence etc. That said, GA needs to reduce the number of infringements. These separations exist to support the safety of the airspace and we can make sure we all plan our flights correctly, even if they are just local. One tool that can assist you is a moving map that displays airspace and provides warnings. If you have never used one, maybe now is the time to investigate the advantages a moving map will provide. Also talk with an instructor about using the moving map as an aid to your visual navigation.

Currently the government is consulting on the work done on its Green Paper — Aviation 2050, and the DfT is looking for responses from the aviation community that will help the government produce an Aviation White Paper by the end of 2019. AOPA is submitting a response and a draft version will go on our website for members to use in developing their own responses.

As Tony Rapson steps down as head of the GA unit we would like to thank Tony for his stewardship, we wish him well. At this point we congratulate Rachel Gardener-Poole on her new and challenging role. We have worked with Rachel previously and as a GA pilot she will have a good insight for the work that still needs to be done. We offer our continued support to the various tasks, building on what Tony began.

DRONES, AGAIN!

The global expansion of the drone market may be closer than we think. In a recent meeting, a challenge was put to regulators as to who has the right to say that airspace is only for aviation? Governments are keen to tap into what is perceived as a highly innovative, job-creating, economic powerhouse, changing the face of transportation and the way aerial operations will to be performed in the future. I think fully autonomous urban air vehicles are still some way off, but advocates representing the drone industry are looking towards a 2030/35 timeframe. Our position is clear when it comes to using the airspace: existing users should not be forced into equipping with new technology, and there should be no new airspace classes. Therefore the challenge to regulators is the need to focus on developing a benefit-driven approach and the integration of users through the use of interoperable solutions. I refer to the mobile phone market: today it matters not who your service provider is, or what phone you use, because the system allows us to communicate globally; over the next 10 years airspace access is going to be one of our biggest challenges. Your association is engaging in the debates today, making sure that GA will retain free unfettered access now and in the future. ■



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...



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News from the MWG



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A member reflects



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AOPA's Code of Practice



WORDS Pauline Vahey IMAGES various

LATEST FROM MEMBERS WORKING GROUP

The Members Working Group meets on a regular basis to discuss the latest concerns from the world of GA. Here are the latest topics

THE MEMBERS Working Group (MWG) returned to White Waltham for its spring meeting on Saturday 6 April 2019.

BORDER FORCE (BF)

Two members of the Heathrow Small Ports team attended the meeting at short notice. Their region covers a 3,500 sq. mile area from Kemble to Farnborough to Battersea and Elstree. Having been based at Northolt until its temporary closure recently they have just moved to Farnborough.

They explained about their duties and why they wanted to build a good relationship with General Aviation. All staff are

trained in both immigration and customs.

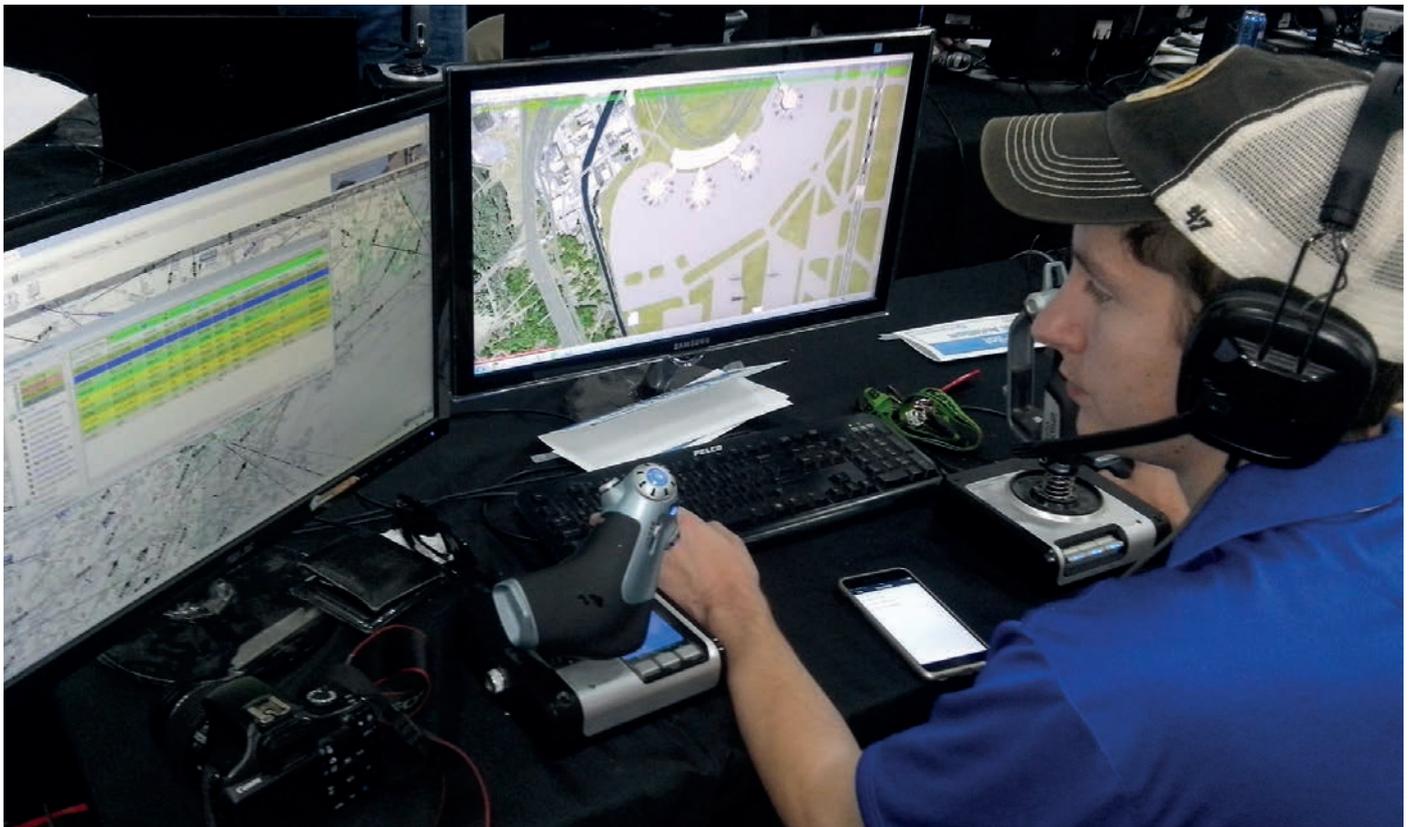
99 per cent of people who the Border Force deal with behave properly, try to abide by the rules, don't want to risk breaking the law, and just enjoy flying. BF appreciates AOPA's support to educate members about current rules.

However, they also talked about the need to be careful with the occasional, more unscrupulous, pilots who don't follow the rules, and BF benefits from more-watchful pilots reporting unusual behaviour.

BF also has duties to supervise flights involving children (especially if parents

"It was suggested that once the outcome of Brexit was settled, they return to MWG and share the changes that will be implemented in Customs and Immigration"

are not on same flight), other vulnerable people, animals (especially dogs), firearms and/or cash more than £10k, foodstuffs such as meat and dairy, and drugs (even for personal medical use it is better to declare them on the GAR). These can be notified by sending an email to the central NCU email address. They reiterated they are happy to be contacted to discuss unusual or unforeseen issues. It was suggested that once the outcome of Brexit was settled, they should return to MWG and share the changes that will be implemented in Customs and Immigration.



Airspace is one of the biggest concerns facing GA right now

AIRSPACE

The Kirkhope enquiry, focusing on lower airspace modernisation process (below 7,000 ft), has finished taking evidence and internal discussions, a first draft of recommendations is expected soon. The main concern is squeezing the recommendations into the legislative timetable. CAP1616 may be amended/evolved. A formal roundtable for GA was held at CAA HQ, chaired by the DfT.

The Strategy and Master Plan for all Southern England airspace was discussed. Currently all airspace changes require a sponsored airspace change proposal (ACP). That is intended to be simplified/replaced. GA concerns were about not being overly consulted, and new procedures could be complex and expensive for GA. They talked about including GA in the consultation. There was also some discussion about returning underutilised airspace to GA, more frequent reviews of controlled airspace, and whether it was appropriately classified. Proposed sanctions where airspace isn't used as much as originally requested were also discussed. Points raised included a single higher transition level, and wider access to GNSS approaches for safety reasons. The diverse groups of GA organisations all presented a unified and consistent view (with a few nuances) and were seen to be doing so.

The General Aviation Partnership met and raised the issue of huge delays in processing GNSS approach applications. The CAA staff appears to be hugely risk averse and more experienced with larger airline requirements but less familiar with simpler GA needs. No GNSS approaches have been approved in the

UK in the past two years despite the huge backlog of demand. This is now causing a shortage of instrument-approach training capacity in the UK.

EASA UPDATE

Nick Wilcock's report had been circulated beforehand and questions were taken.

Less than a handful of Enroute Instrument Ratings (EIRs) have been issued in the UK and it is likely to be scrapped when the Basic Instrument Rating (BIR) is introduced.

BIR: two issues will reduce take-up – AOPA is lobbying for training to be held at DTOs as well as ATOs; AOPA continues to oppose the audiometry requirement for medicals.

Modular LAPL: it will be optional so may not be introduced in every country. It may help provide a route from microlight to LAPL progression in the future. It will mainly be used in France as a replacement for Brevet-de-Base.

EU regulations which enable the UK to issue the IR(R) have now been extended until April 2021.

Ab-initio training in non-EASA aircraft is likely to be announced by EASA in June, but will exclude microlights. Hours will soon count for revalidation of EASA SEP class ratings when flown in 3-axis microlights.

Aerobatic rating requirement for hours flown since licence issue is to be reduced from 40 to 30 hours. However, this is still thought to be too high and it would be more appropriate if it was competence based.

It is currently NOT recommended for Private Pilots to transfer their licences to another EASA country, the problem being that, some countries do not include or recognise all UK-based qualifications such as IR(R). ■

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WORDS Mike Munn

THE WD AND HO WILLS TRAINING SCHEMES

Mike Munn tells his fascinating story of how he became a pilot through a promotional campaign from a tobacco giant in the '60s

BETWEEN 1966 and 1968 WD and HO Wills, the cigarette manufacturer part of the Imperial Tobacco Group, ran a promotional pilot training campaign called – unsurprisingly – ‘The Wills Flying Training Scheme’.

The scheme, in consultation with Rex Smith – Chairman of the British Light Aviation Centre (BLAC – now AOPA) – provided for the full training to PPL standard of 60 individuals each year, including the issue of a Board of Trade (BoT) Private Pilots Licence plus the possibility of winning a new Piper Cherokee 140.

The selection process was undertaken by 140,000 applicants, initially by post, by completing a series of simple yes/no answers to some 50/60 general questions. I duly applied and must have answered

"I duly applied and must have answered correctly as I managed to join the selection process for the 1968 year"

correctly as I managed to join the selection process for the 1968 year.

I was allocated the Luton Flying Club at Luton Airport. The selection process comprised one to two-hour written speed tests on simple aeronautical and general questions, mostly with multiple-choice answers. During the day each candidate was taken on a brief experience flight to assess their spatial awareness and flying aptitude. My flight was in one of the club's new Cessna 150 E aircraft. The initial take-off was done by the CFI (Howard Brunt) who handed over controls and directed a few simple turns at the same time as asking “Which way is north?” Returning to the circuit, I was instructed to apply full manual flap (40° operated by mechanical manual flap lever) and to descend to the threshold of grass runway 36, which appeared

to be almost vertically below us, and prompted when to flare and land. I must have impressed as I was selected as one of the three final candidates for full training at Luton Flying Club.

The sponsors provided all the equipment required for the course including charts, instruction manuals, Dalton Flight Computer, flight log book, knee pad, and club membership. The requirement was to complete the PPL training within three to four months ready for a critical flight assessment test carried out by one of the ‘trappers’ from the RAF Central Flying School – more of that later. Thus started my free training.

I can mention here that the norm for light aircraft in those days was no headsets – there was a loudspeaker in the roof, a handheld microphone and a perverse Direction Indicator that I could never get to grips with.

The training progressed quite quickly as it was not restrained by cost, and the instructors were keen to teach each of the three students so the hours built rapidly. We did many things during training that may or may not have been in the syllabus in those days – and definitely are not allowed in the current syllabus: eg climb to 4/5,000 ft and stop the engine and restart without use of the starter motor! Also fully developed spins from glide and power configurations, max rate side slip descents and mixing it on short final 24 grass with commercial traffic on the convergent 26 hard main runway.

Cross country flights – dual and solo – were done with chart rule and stopwatch.

This was the year, 1968, when



A Cessna 150, similar to the aircraft Mike trained in

filming was being done for the film *Battle of Britain*, and on one return from a cross-country flight I was very closely accompanied by a Mitchell B25 camera-plane painted dayglow red and green port/starboard, also returning to Luton.

Towards the end of the course it became clear to me that the other two candidates had dropped out of training and I was the only Luton trainee left. So in addition to the PPL a special effort was made by the instructors to train me to a higher standard than that normally required, for the forthcoming critical flight test with one of the trappers from the RAF Central Flying School Examining Wing. This was arranged by Wills, whereby the same CFS examiner (in this case Flt Lt J Clifton Hemsley) attended each of the 20 flight schools to mark tests and rate the best student from each location. The same Flt Lt Hemsley also undertook this examining task for the previous 1967 scheme and also I believe for the earlier 1966 scheme, providing valuable training feedback to the BLAC.

The critical flight test in the C150 lasted an hour and a half and followed a similar regime to that for PPL issue, but of course was done with the critical eyes of an experienced examining service officer, who said little but wrote a lot. I well remember his few words on short final glide approach for runway 36 – "I think we are shortly going to require some power" – to avoid touching down on the main runway.

The examining officers' reports and full comments for both 1967 and 1968 can still be seen in the archives of *Flight* magazine (dated 16 May 1968 and 14 November 1968) in the Sport and Leisure sections; it makes interesting reading.

Well, all that was a wonderful experience – but more was to come! The number one candidate from each of the 20 flying schools (accompanied by the Club CFI) was invited to an all-expenses-paid two-day public event at Oxford Kidlington for

the Grand Finals Air Display, organised by Wills in conjunction with CSE, including an air display by the Red Arrows (Folland Gnats at the time). But more importantly for the candidates a further round of testing and interviews decided the winner of the competition, followed by a presentation of the new Piper Cherokee 140.

First there were several hours of PPL-standard and higher-level questions on all the usual flying subjects, both written and verbal; this was followed by a 15-minute individual interview with an eminent interview board. That was some interview! One question I remember, not surprisingly, was "What will you do with the new Cherokee 140 which you hope to win at the end of today?" The Cherokee 140 was valued at £7,200 and came with £500 for first-year insurance and maintenance. There were other prizes of £250 for second place and £100 for third, with £25 for each of the remaining finalists plus a nice oak table box, with brass-inscribed plate, containing some 300 or so cigarettes.

The marks of the tests were collated and the winner, together with second and third places were announced later in the day. I like to think I came fourth – is anyone out there who also participated in the scheme – instructor or student?

The whole experience was extremely well thought out, planned and executed – and above all, generous. Subsequently for me, life, family and work intervened, so I had some years with no flying. However in the late '70s I checked with the CAA what I needed to do to regain my lapsed PPL – but I decided to revisit the whole training programme. Crucially I never disclosed my previous training. This raised a few eyebrows when the instructor announced that Mike was going solo after roughly three hours – to which the club owner declared: "Not b----y likely, it's ridiculous". I was with him! ■



AOPA FI 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**
- 2 Attend a FI Refresher Seminar**
- 3 Pass an Assessment of Competence within the 12 months preceding the expiry of the certificate.**

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
3-4 DECEMBER 2019.

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.

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WORDS George Done

HELPING TO KEEP OWNERS FLYING

George Done explains how the AOPA Maintenance Working Group can help you with your maintenance and engineering problems

AOPA HAS been helping aircraft owner and part-owner members for the past 20 years with their maintenance and engineering problems, of which about 10 per year come to AOPA's attention. Considering that our members own, or own a share in, about 1,500 GA aircraft, only quite a small proportion of owners are affected.

AOPA is fortunate to be able to call on the members of the AOPA Maintenance Working Group for advice, the CAA members providing help where necessary on regulatory queries, which represent about 40 per cent of the overall figure. SDMP, for example, has been a recent issue, and such cases are vigorously pursued with the CAA towards a satisfactory conclusion.

The rest are more problematic and generally an owner will have gone through a certain amount of aggravation before deciding to contact AOPA for help. This is where the Maintenance WG members, with their background of experience and professionalism, can provide useful comment on individual cases. Problems tend to fall into distinctive categories, namely, in order of ascending numerical magnitude: dissatisfaction with recent maintenance or deterioration of the owner/maintainer relationship, engine problems, and aircraft purchases that turn out to be less than ideal.

Regarding the first category in which the maintenance service falls below par, the WG members decided in 2012 that it would be a good idea to draft a Code of Practice for



Make sure AOPA's Code of Practice for Maintenance and Repair is followed

"An owner will have gone through a certain amount of aggravation before deciding to contact AOPA"

Maintenance and Repair that they themselves follow and could be recommended to other light aircraft maintainers. In particular, in cases where an aircraft changes hands and the new owner transfers to a new maintainer, the latter will take nothing for granted, and unforeseen extra costs may arise. In this case of the owner having had no previous dealings with the maintainer, the C of P can be used to establish a basis for the future business relationship between maintainer and customer. In situations where the maintenance organisation itself changes hands, or the previous high standards seem to be slipping back, a discussion based around the C of P can be worthwhile. A few of these problems concern poor maintenance by a previous maintainer, in which case

submitting an ASR (Aviation Safety Report, otherwise known as a Mandatory Occurrence Report – MOR) is recommended.

The second category includes catastrophic engine failures, in the sense that the engine is virtually a write-off, or at least requires a significant rebuild. Also, when an oil analysis or other evidence indicates that all is not well inside the engine, and subsequent investigation reveals some components unexpectedly worn beyond allowable limits, or damaged. Such events usually lead to grounding the aircraft and look set to cost the owner a considerable sum before the aircraft can be restored back to full airworthiness. Ideally, the owner wishes to have the cause of the failure determined in the hope that suitable recompense can be negotiated, possibly in

the form of an engine rebuild. In most of the past cases reviewed by AOPA, it has been impossible to determine the precise cause, even though there may be a certain amount of circumstantial evidence that appears to point to previous work done on the engine, which involved dismantling and assembly by a maintainer or overhaul workshop. However, there have been a couple of cases where positive evidence – in the form of an incorrect part fitted – came to light, leading to a satisfactory outcome for the owner.

Thirdly, there are cases where serious problems are discovered at the first maintenance inspection of a recently purchased aircraft. These are rare, but nevertheless, are important enough for AOPA to strongly recommend a pre-purchase inspection by a licenced, or otherwise experienced aircraft engineer, before a prospective owner parts with a lot of cash for what

may be a problematic aeroplane – the cost of which to restore to airworthiness could easily be equal to the purchase price.

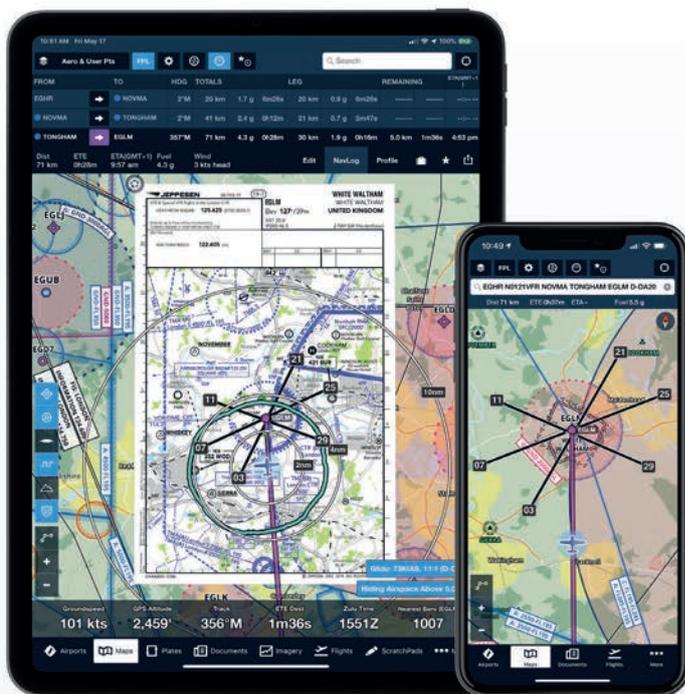
THE CODE OF PRACTICE

- We will endeavour to contact you at least two weeks in advance of any scheduled maintenance due, to fix a mutually acceptable time and date to receive your aircraft at our facility.
- A full explanation of any mandatory requirements ADs, SBs, etc. that you need to have carried out when your aircraft is with us, in addition to the routine scheduled work, will be given in detail.
- Any additional work requested by you will be agreed at the time of booking.
- Estimates and quotations can be provided upon request and before any work is carried out if required.
- Accepted methods of payment will be confirmed prior to any work commencing. (For lengthy or expensive projects, staged

payments may be agreed).

- We will agree with you the parts to be used. Should you wish to source and pay for parts directly, this can be discussed and we may be able to agree, subject to the inclusion of a suitable administration fee to cover the approval of any paperwork that you need to provide.
- All parts supplied by us remain our property until we are in receipt of cleared funds.
- Replaced parts will be made available to you for examination upon request. (Unless required for part-exchange by our supplier.)
- The quality of any subcontract work e.g. avionics, weighing, welding etc. remains our responsibility unless purchased directly by you.
- Any additional work found to be needed during the maintenance procedure will be advised to you in writing or by email, and will be required to be prior authorised by you, unless otherwise agreed.

- All elements of the work carried out will be explained in full upon collection/delivery.
- Final invoicing will clearly show labour, parts, additional charges and VAT. Once our explanation of the work is complete, payment is due upon collection/delivery, which should be within seven days. Thereafter, a daily storage charge may be raised.
- Aircraft must have valid insurance whilst in our custody.
- We ensure that all our staff are competent to carry out the work within their responsibilities.
- A competent member of staff will appropriately supervise trainees.
- Appropriate equipment is used to carry out the work we undertake.
- All work is carried out in strict accordance of the National Airworthiness Authority regulations appropriate to your aircraft.
- In the event of a complaint our Chief Engineer or Accountable Manager should be informed immediately. ■



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AOPA NEWS

General Aviation news from around the world



PIPER ANNOUNCES NEW TRAINER

Piper's new Pilot 100 and Pilot 100i trainer aircraft, which it claims is an affordable, proven trainer aircraft for flying training organisations of all sizes

by **AOPA News Team**

Piper Aircraft, one of the world's most famous manufacturers of training aircraft, has announced two new value-priced additions to its trainer-class line, the Piper Pilot 100 and Pilot 100i. These new products enter the trainer segment at a competitive price point of \$259,000, are VFR equipped and offer the same rugged durability and functionality as their stablemate, the Archer TX.

The need for a new trainer aircraft at a price point that could support the growing demand for professionally trained pilots was identified following extensive research and the rapid expansion of trainer sales. To achieve optimal acquisition and operating costs and economics, Piper focused on proactive planning and

collaboration with several key vendors. As a result, the Pilot 100 series features several new components like the Continental Prime IO-370-D3A engine, as well as Garmin G3X Touch certified avionics in a standard two-pilot interior configuration. The Pilot 100i adds an IFR-capable upgrade package that includes the Garmin G3X Touch and GFC500 autopilot, the new GNX375 and is priced at \$285,000. Both aircraft will be available in limited quantities beginning in 2020.

"With the unprecedented demand for professional pilots, our team worked closely with several key suppliers to deliver an aggressively-priced, proven trainer that offers the advanced systems and performance that flight schools and airline

programmes of all sizes desire," said Piper President and CEO, Simon Caldecott. "We are excited to add the Pilot 100 series to our training product line at a price point that provides optimal economics for all operators."

The new Piper Pilot 100/100i rounds off Piper's portfolio of training aircraft products. With five model series (Pilot 100, Archer TX, Archer DX, Arrow and Seminole) the company offers the widest range of training aircraft of any aircraft manufacturer, and meets all the individual needs of its training operators and customers. The sales figures amply demonstrate how well Piper's training class of products is received by the industry. Since 2014, sales of the single engine Piper Archer have grown more than 93%. For 2018, sales of the robust

single-engine Archer grew by nearly 50% YOY, while twin-engine Seminole deliveries rose 117%.

The Piper Pilot 100/100i provides flight schools with professional training aircraft that offer a value proposition which translates into lower operating costs that can result in lower-priced initial training courses. Standard instrumentation includes the Garmin G3X system, which offers all the advantages of a glass cockpit without the costs. The Pilot 100/100i is powered by the 180hp Continental Prime IO-370-D3A which offers 128 ktas/237 kph max cruise speed and 522 nm range with 45-minute reserve.

Piper also states that the Pilot 100's interior is simple yet functional, and was specially crafted to withstand the rigours of flight training. ■

CAP 10 RELAUNCHED AS A NEW GENERATION AIRCRAFT

by **Robert Care**

The instantly recognisable and much-admired CAP 10 was relaunched at Aero Friedrichshafen as an updated NG.

The French-built side-by-side two-seat aerobatic aircraft will be manufactured by CEAPR – the same company that owns Robin – and has a wood construction with a carbon-fibre wing spar, with aerobatic limits

of +6/-4g. It's powered by a 180hp fuel-injected Lycoming with a two-blade Hoffmann propeller as standard.

A three-blade MT constant-speed prop is on the show aircraft and will be certified soon, according to UK agent Mistral Aircraft. The new prop will offer improved performance.

"The plane is always efficient and the demand for new copies recurring," says

Casimir Pellissier, president of Robin Aircraft. The Cap 10C NG is identical to the Cap 10C that was produced until 2008. It benefits from a modernised cabin interior, an optional glass cockpit (Garmin G500) and a three-bladed, variable-pitch propeller. Standard flight instruments include two side-by-side Garmin G5 EFIS with analogue back-up. Basic price is €295,000 plus VAT. ■



The owners of Robin Aircraft showed off its new CAP10 NG at Aero

MANAGEMENT AND TRACKING SYSTEM FOR SCHOOLS

by **David Rawlings**

Private-Radar at Aero Friedrichshafen announced new clients for its intuitive, full-featured Flight School Management System and Aircraft Tracking System. Private-Radar offers the most advanced, easy to use and cost effective Flight School Software on the market: aircraft management, pilots management, scheduling,

course management and evaluations, SMS, reporting, and more. Private-Radar offer every functionality a flight school needs and can also customise the program to fit each school's specific needs.

Its unique tracking system allows you to follow your aircraft in real time, from anywhere, with any connected device (tablet, smartphone, laptop, etc). The software not

only automatically saves the information relative to all flights, but also makes it easy to review flights, consult accurate times (start up, taxi, take off, landing, full stop), view altitude graphs, monitor speeds, track in 3D, and much more. Automatic logging of the flights means automatic logbooks, maintenance, and even invoicing when you also use Private-Radar. ■

LOOK BACK... THIS MONTH 98 YEARS AGO



CAMBRIDGE WINS FIRST AIR RACE

The first Cambridge vs Oxford air race took place on 16 July 1921 and Cambridge took the spoils.

Returning from the Great War, some young men from Oxford and Cambridge Universities felt confined within their colleges. Besides, they had, just a few years earlier faced German biplanes over the battlefield.

The funds needed to hire the aircraft of choice, the SE5A, were provided by the Royal Aero Club as it was the sponsor of the 1921 Aerial Derby at Hendon which incorporated the Varsity Air Race into its programme. The prize fund of £400 was contributed by wealthy aristocrats and Anglo-American Oil.

The Oxford aircraft were decked out in dark blue and their Cambridge counterparts in light blue.

Cambridge claimed a clean sweep of 1-2-3. The race was won by WS Philcox whose speed averaged 118.55 mph. Boeree, the organiser, completed the course in last place.

The organisers were disappointed at the low number of aircraft entered and low spectator count and the aerial race was discontinued in 1924.

AOPA NEWS HIGHLIGHTS

A380 FOR SCRAP

Only 12 years after their entry to service, crews have begun dismantling two Airbus A380s for scrap at a French airport. The ex-Singapore Airlines airframes were the first to carry passengers in 2007 and were returned to a leasing company by the airline after their 10-year term expired. The leasing company made the call to part them out after it couldn't find any buyers. The cannibalisation began last week at Tarbes Lourdes Airport.

AIRCAM THREE-SEATER

The distinctive twin-engine AirCam from US company Lockwood Aircraft is being upgraded for 2019, including an optional third seat. "The new Gen-3 model airframes will have the option of incorporating a third seat located behind the second seat and a 220 lb gross weight increase from the gross weight to 1,900 lb," said company boss Phil Lockwood. "The new seat will be quickly removable to convert between cargo and third passenger."

NEW OWNERS

Cyrrus Ltd, an aviation consultancy, has bought a 25-year lease for Shoreham Airport. Rob Cooke, Managing Director of Cyrrus, will take over as managing director. Rob Cooke's experience includes senior management roles at Birmingham, Doncaster-Sheffield and Durham Tees-Valley airports. Rob Cooke said, "We want to reassure everyone that it will be business as usual at Brighton City Airport."



The New F-Series from Flight Design

FLIGHT DESIGN'S NEW F-SERIES

A new clean-sheet range of aircraft has been announced by the German Manufacturer

by **Lucy Field**

At AERO Friedrichshafen, Flight Design launched its all-new clean-sheet range of aircraft, the F-Series. There will be three models over the next few years, starting with the F2 two-seater powered by a Rotax 912iS engine, the F2e with an electric propulsion system, and the four-seat F4 powered by a Rotax 915iS engine.

The F2 has been designed for the new 600 kg UL class, the ASTM LSA class and in particular the new CS23 Adm. 5 class developed for VFR & IFR.

Over the years Flight Design has proven with CT how to meet customer requirements. The F2 implements a number of requests from CT customers and the wishes of flight schools.

"The F2 offers maximum space, comfort, performance and ease of flight, making it easy for less-experienced pilots to fly," said Tom Peghiny, President of Flight Design USA.

"The aircraft, the structure and the aerodynamics were developed by the most highly experienced specialists. Intensive use of computer simulations helped to focus on safety, handling and performance." Says Dieter Koehler, Head of Design F2 Project, "Only the great cooperation of the international team has made the project possible with its very high requirements".

"The F2 is characterised by significantly simplified flight characteristics and improved flight performance," said Tom Peghiny. "After test flights with the prototype the sense of space is simply incomparable". The interior has been completely redesigned and the noise level lowered. A parachute rescue system and airbags are standard equipment. The Garmin Avionic Suite with ADS-B and autopilot with ESP provides all the security

features and information that a dedicated pilot needs to comfortably navigate a long-range aircraft.

The redesigned cabin offers more space and is bright. With the Rotax 912iS, Flight Design was able to improve the installation and fuel system design. In terms of production technology, Flight Design is making the new series with its modern carbon pre-preg technology. This allows higher accuracy of fit, and makes the airframe lighter and structurally stronger.

"The Flight Design Team worked together with its partners in the different countries for two years on the concept, development, testing and approval of F2," explained Daniel Günther, COO of Flight Design General aviation. "In May 2019, the ASTM LSA and UL approval will be completed. EASA approval is expected in summer 2019." ■

XTREMEAIR LAUNCHES TWO NEW AIRCRAFT – INCLUDING TRAINER

by Robert Care

Aerobatic aircraft specialist XtremeAir is reaching into the recreational sport-flying market with a new XA42 “Gold” version of its XA42 model and is hoping to bring in a new generation of flyers with its XA22 trainer under development.

The XA42 will have the same performance as the original XA42 aerobatic model, but incorporate features that would appeal to a broader range of pilots, including those who are more interested in recreational flying, according to Eric van der Snoek, head of the design organisation for XtremeAir. These include larger baggage capacity with weight up to 25 kg (55 lb) and access to the cargo compartment from the

outside. The aircraft further incorporates an automatic step, that lowers when the canopy is lifted, for ease of access; and leather seating provides a more upscale feel.

One of the most significant changes includes a new all-glass flight deck with a Garmin G3X primary flight display, G5 EFIS, GTN 650 GPS, and GFC 500 autopilot, among other features. XtremeAir is eyeing certification by year-end. While the price is not yet set, van der Snoek estimated it would be in the range of about €400,000 (\$450,000).

At the same time, XtremeAir is developing an XA22 trainer aerobatic aircraft that will have similar flight characteristics, but be equipped with a 210hp four-cylinder Lycoming AEIO-390 engine. The aircraft will have a load of +/-8g, while the



XtremeAir announced two new aircraft at AERO.

XA42 Gold has +/-10g. Also specific to the XA22 will be duplicated ergonomics for the front and rear seat to provide students with the same handling as the instructor.

The range of the XA22 will be 782 nm and cruise speed will be 156 knots, with a top speed of 225 knots.

The team hopes to fly

the prototype by the end of the summer, with certification possible next year. Van der Snoek said the aircraft was designed with roomier cockpits to be more comfortable for students, with a view to attracting a new generation to aerobatic flying. Price is expected to be €250,000. ■



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Cirrus jets
have been
grounded

CIRRUS JET GROUNDED OVER FAULTY SENSOR

A faulty angle-of-attack sensor has seen the FAA issue an emergency airworthiness directive

by **Lucy Field**

Cirrus SF50 Vision personal jets have been grounded by a faulty angle-of-attack sensor. The Vision jet was seen as a breakthrough into the jet market for many pilots when it first burst onto the scene in 2008 with a flyover of Oshkosh, but now it has been grounded due to serious safety concerns.

The US aviation authority, the FAA, issued an emergency airworthiness directive on 19 April requiring replacement of the angle-of-attack (AoA) sensor. If faulty, the sensor could initiate unwanted pitch changes.

The emergency AD applies to all SF50 jets currently flying – estimated to be 117.

“This emergency AD was prompted by Cirrus reporting three incidents on Cirrus Model SF50 airplanes of the stall warning and protection system (SWPS) or Electronic Stability & Protection (ESP) system engaging when not appropriate,” said the FAA.

The first incident occurred in November 2018 and the latest earlier in April 2019.

“The SWPS or ESP systems may engage even when sufficient airspeed and proper angle of attack exists for normal flight,” continued the FAA. “The SWPS includes the stall warning alarm, stick shaker, and stick pusher. The ESP includes under speed protection (USP).”

“The SWPS system engaging inappropriately could potentially result in a

STALL WARNING crew alert (CAS) message activation, accompanied by an audio alarm and stick shaker activation, followed possibly by either low speed ESP/ USP engaging, and/or the stick pusher engaging.

“The pilot will also observe the dynamic and colour-coded (Red) airspeed awareness ranges displaying the stall band, regardless of actual indicated airspeed.”

In one case, the aircraft activated several downward pitch commands coincident with stall warning, stick shaker, and several associated alerts. The pilot reported “AOA FAIL” and “STICK PUSHER FAIL CAS” messages preceding the pitch command. The pilot was able to stop the

automatic pitch commands by pressing and holding the autopilot disconnect button in accordance with the emergency procedure in the aeroplane flight manual and safely landed at his destination.

Cirrus Aircraft has issued a service advisory with instructions to replace the angle-of-attack sensor, which was determined as being the root cause of the problem.

The AOA sensor, manufactured by Aerosonic, malfunctioned because two set screws that secure the sensor’s potentiometer shaft to the AOA vane “may have improper torquing and no application of thread locker (Loctite) to secure the two set screws”. ■

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CAMBRIDGE AIRPORT TO RELOCATE

by **David Rawlings**

Marshall Aerospace and Defence Group, the owners of Cambridge Airport, has announced it will relocate and close the current site by 2030. Marshall has said it is considering three new potential locations – Cranfield, Wyton and Duxford. The current site which lies east of Cambridge city centre will be turned into 120,000 homes and around five million square feet for business use.

Alex Dorrian, Executive Chairman of Marshall said that they will be, “supporting and retaining our existing valued and highly skilled workforce through the move.”

With three sites being considered, Chief Executive of Marshall, Alistair McPhee, explained, “It is still very early days but we know that finding the right airfield location that



Cambridge Airport's current location will be developed into 12,000 homes

will give us the necessary space and flexibility to support our planned growth, which is close enough to Cambridge to enable us to retain and attract talent, will be a complex and time-

consuming task. “At this stage, we have a number of potential locations in mind but are still some way away from making any decisions. However, the Cambridge site

will continue to be our home for many years to come.” Marshall intends to put the Cambridge Airport site forward for development as part of the next Local Plan from 2030. ■

BLADES TO SWAP EXTRAS FOR GAMEBIRDS

by **David Rawlings**

After thirteen seasons of flying, the Blades Aerobatic team is swapping out its fleet of Extra EA300s for the new GB1 Gamebird. The team recently completed its 1,000th display and thought it was time for a change. The Blades are instantly recognisable and piloted by former RAF Red Arrow pilots.

For the beginning of the 2020 season the Blades will have a new aircraft for displays. The Philipp Steinbach-designed GB1 is the team's new aircraft of choice. “There are several reasons for the change,” explained Blades pilot Andy Evans. “It’s easier to fly in formation and has a whole bunch of extra benefits.”

Ben Murphy, Red Bull Air Race pilot and Blades 2 pilot further explained the change: “We will tour to the Middle East in the winter months. In the past we’ve had to ship the aircraft, but the GB1 has such phenomenal range, so we can ferry fly it.”

The Gamebird also provides dual controls and a glass cockpit, which will greatly help the Blades with their upset recovery training. The team hopes to take delivery of the Gamebird ready for the start of the 2020 season. ■



The Gamebird GB1 will be the aircraft of choice for the Blades Aerobatic Team for the beginning of 2020

HAPPY BIRTHDAY

by **George Done**

Past AOPA Chairman David F Ogilvy, OBE, FRAeS celebrated his 90th birthday recently and was treated to a pub lunch at The White Lion, Westbury on Trym, Bristol, organised by Anne Hughes, Chairman of the Vintage Aircraft Club of which David is Honorary President. David is also Past President of AOPA, and was Chairman of AOPA prior to 2001 when George Done took over. David was Done's flying instructor when he gained his PPL through an RAF Scholarship at Elstree in 1953. David has spent his life in aviation, he has been part of the GAAC working on aerodromes and the Curator of the Shuttleworth Collection of historic aircraft for many years. ■



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IMAGES Royal Air Force Charitable Trust and author

THE BEST SHOW IN THE WORLD

The Royal International Air Tattoo is one of the world's most famous air shows and is loved by thousands. Here Henry Simpson explains what it takes to put on such a mammoth event and why it's always a giant success...



HENRY SIMPSON PPL HOLDER FOR FOUR YEARS **21 YEARS OLD** STUDYING BIOLOGY AND PHYSICAL GEOGRAPHY

EVERY JULY thousands of people flock to RAF Fairford in Gloucestershire to enjoy the spectacle that is the Royal International Air Tattoo, the world's largest military air show and an event unparalleled around the globe.

The event is organised by the Royal Air Force Charitable Trust Enterprises (RAFCTE) and I visited its headquarters at Douglas Bader House to speak to Chief Executive Andy Armstrong and Head of Air Operations Tom Gibbons, about organising the event.

The Air Tattoo is the keystone event organised in support of the Trust, by its trading company RAFCTE. The Trust's mission is to promote the Royal Air Force, support its people and encourage air-mindedness and the aviation-related education of youth. One of the ways that the Trust achieves its mission is through scholarships such as the Sir Michael Knight Pilot Scholarship Scheme, which is awarded to nine RAF Air Cadets in recognition of their flying abilities; they are sent on a six-week residential course where they have full access to air and online ground school training and a PPL examination. "It's

really fantastic to know what we have done to help them," Andy says.

Indeed, the scholarship programme is important to him as he himself gained a scholarship as a cadet and his pilot's qualification award from the Leicester Aero Club still adorns his desk. In addition to the scholarships Andy is keen to see young people getting involved in engineering, and to support this the showground features the Techno Zone, an area where companies such as BAE Systems sponsor hands-on exhibits and STEM activities.

Planning the show starts one or two years ahead with roughly an 18-month timescale although they are always thinking ahead, with the theme of the 2021 show already decided – RIAT's 50th anniversary. That pre-planning is important, so they can talk about the following year's event at any given show and start planning for headline items, although the real planning for the next year takes place post-show. RIAT differs significantly from other air shows fundamentally because of the level of military involvement. Andy was keen to stress that RAFCTE is a separate stand-alone business and not part of the RAF. This provides the unique scenario of a civilian

company running a military event on a military airfield and this means the show has unique discussions with air arms and is subject to MAA (Military Aviation Authority) oversight. When he started the job, Andy said he wrote down a mind map of what may be involved in the task and he got "about 50 per cent" of it right. "It's a field at the moment, but we need to bring in a multitude of additional services including for example HMRC, Border Force, currency exchange for foreign aircrews as well as the Met Office for weather and hotels for crew accommodation." The most unique aspect of the show, he suggests, is having its own dress hire facility to provide black tie for visiting aircrew to attend the Gala Dinner during the show. He adds that over 47 years "...they have pretty much thought of everything."

I asked if they thought the RAF 100 celebrations had been successful. "The RAF should be applauded for all the events they have done this year [2018]." RIAT hosted the 'International' celebration of the RAF's Centenary with a record crowd of 185,000 people and 302 aircraft, including those from 43 air arms out of 30 nations participating, 121 of which

were in the flying display. It's easy to see why it is seen as a triumph.

In terms of developing the show in the future, Andy says that every year the show changes and evolves through a culture of continuous improvement – although they do face a fundamental challenge in terms of the road network. The local road network is not ideal for the high volumes of traffic the show brings in. "We're pretty much at capacity now," Andy explains. They are looking to increase the number of spectators via the usage of park and ride schemes and using the digital medium to stream the show to a wider audience. RAFCTE also have plans to run other events such as they did with the 2017 Scampton air show, although there are no firm plans yet in this area. As far as prospective visiting pilots are concerned, the airfield is understandably closed to fly-in visitors, but Kemble is probably the closest along with Gloucester and Oxford. However, as Tom mentions, there is significant restricted airspace for the show although they do use a flexible airspace strategy that is based around the requirements of a display act, citing the difference between a Chinook display and the Red Arrows as an example.

Being a predominantly military show, in recent years they have faced an “inevitable squeeze” in attracting military participants from overseas. However Andy is confident that they run a “must-attend event” where the benefits outweigh the cost for attendees.

This year’s show features the operational theme of the 70th Anniversary of NATO and they are already in dialogue with NATO as to what support for that might look like on the ground and in the air, in addition to inviting all NATO member states to participate. Air and Space will also be a prominent theme this year as the Saturday of the show will mark 50 years to the day since Apollo 11’s moon landing.

In terms of representing anniversaries such as the RAF’s 100th in 2018 and the Battle of Britain’s 75th in 2015, for RIAT to host these successfully Andy says that whilst they chose the themes of the show, it’s all about engagement with relevant organisations. If he had an ambition for a show he

would want to be in dialogue two years in advance as, “you make your own history in this job.”

I then asked about how the show would be affected by the USAF’s announcement that more assets will be stationed at Fairford following the closure of RAF Mildenhall in 2023, including the arrival of RC-135 Rivet Joint signals intelligence aircraft. “It’s very exciting,” he says, highlighting that the opposite would be bad news for the base, and it provides Fairford with a long future. “There will be issues we will have to work around.” These could include building work to help accommodate the new squadrons, but the USAF is very supportive and there is “no doubt that RIAT will continue at Fairford for many years to come.” Tom adds that rather than think of them as issues he prefers to view them as challenges due to the close cooperation and support they have from the USAF. In the post-Shoreham world, the team has reviewed everything

“The F-35’s debut in 2016 required complex discussions and cooperation with multiple organisations including the US Department of Defense.”

about the show and Andy is keen to state that they are proud of their safety record.

I asked Tom about the challenges presented in dealing with participating air arms from so many different nations. Each nation has its own requirements such as those for security and logistics but there is also the requirement of interpreting the proposed display routine against UK Flying Display regulations to ensure that those acts displaying are compliant. The key to this is communication with participants. Invariably national display teams need more planning, as do new nations and first-time displays. It’s a critically important hand-holding process, for those who have never visited the show or displayed in the UK before, as everything is new to them. Tom also states that significant items, such as the F-35’s debut in 2016 required complex discussions and cooperation with multiple organisations, including the US Department of Defense, the USMC, RAF

BELOW FROM LEFT: the Hawker Fury; the BBMF in its full glory; drones in the static display



and many others in order to successfully complete the joint deployment. Another example was when 2018's show featured the first transatlantic crossing by a Remotely Piloted Aircraft into UK airspace. "From initially receiving a phone call in the car the previous August/September through to the aircraft landing at Fairford, a lot of effort was expended by a number of agencies before it arrived," Tom explains. Andy adds that there is an "awful lot of planning and contingency planning but that's what event planning is all about." Tom highlights the Battle of Britain 75th anniversary fly-past as another example, with the integration of the Royal Air Force BBMF and civilian aircraft. That mix of military and civil pilots plus the different limitations of various aircraft types within such a large formation could have caused issues, but Tom states that there was a seamless integration due to the experience and professionalism of the crews and the show team.

In regard to their personal highlights and disappointments both Tom and Andy view the cancellation of the F-35's planned RIAT and European debut on the Wednesday before the show in 2014 due to engine issues to have been a great shame after the work that had been put in. Although they both stated it was rewarding to see them land in the UK for the first time in 2016. Similarly, they both view the cancellation of the planned RAF 100 formation fly-past from the 2018 show as a disappointment, which was down to bad luck – as in months of dry weather the only rain that seemed to fall was from a thunderstorm that sat over the airfield at precisely the wrong time on that Friday – forcing the fly-past to be aborted. In terms of highlights Andy views the Vulcan's final appearance in 2015 as a real 'hairs on the back of your neck' moment. The Battle of Britain 75th was also 'mentioned by both as amongst their personal highlights. Andy views the Japanese Maritime

"Andy views the Vulcan's final appearance in 2015 as a real 'hairs on the back of your neck' moment"

Self-Defense Force Kawasaki P-1 as a highlight as it was the first aircraft to touch down at the first show he was in charge, in 2015. Tom also holds this debut in high esteem as it was the first flying participation by the Japanese armed forces in a European airshow. Andy also wanted to add that the extraordinary volunteer team, a temporary workforce of 2,500 people encompassing civilian volunteers and military specialists, are a great asset to the show. At that moment a C-17 flew over, interrupting our conversation. "Cool place to work," Andy adds. It's clear that the dedication and hard work put in by the team is what makes the show such a success, and 2019 looks to be no exception.

I would like to thank Andy Armstrong, Tom Gibbons and Laura Hooper at the Royal Air Force Charitable Trust for their time and hospitality. The 2019 Royal International Air Tattoo takes place 19–21 July and tickets must be purchased in advance. ■

BELOW FROM LEFT: thousands come to the show each year; the Red Arrows; a line of jets waiting to fly





I feel
the need for
speed



WORDS Robert Care **IMAGES** JMB Aircraft

The VL3 Evolution from JMB is a true success story and it's a go-anywhere, do-anything UL aircraft that's famous for being super fast

SOMETIMES you want to get from A to B as quickly as possible, and let's be honest — speed is fun! Sometimes you can compromise comfort for speed, but the VL3 Evolution offers comfort, stability and a lot of pace.

The VL3 is one of the fastest side-by-side Ultralight (UL) aircraft on the market. It was first designed in 2004 and built by Aveko in the Czech

Republic until 2011 before JMB took over the rights of the VL3 in 2012 — and even that's an interesting story...

HISTORY

Brothers Jean-Marie and Jean-Baptiste Guisset created JMB (a combination of their names). The brothers were born in Belgium into an aviation family. Their father ran his own private airfield. When their father came to sell the airfield, the brothers

decided to buy the airport from their father.

Together they hosted events and invited companies to come and spend a day flying aircraft as a team building exercise. It's said that a man came to the airport asking the brothers for the fastest ultralight aircraft. Although the brothers weren't aircraft brokers, Jean Marie offered to keep the man's number, foreseeing a potential new line of business. The

brothers went to AERO Friedrichshafen, saw the VL3 and started to speak with the manufacturer Aveko.

After several discussions with Aveko, the brothers became the dealers for Benelux and France. They instantly fell in love with the plane, and that passion for the VL3 ultimately saw them becoming the biggest sellers of the aircraft in Europe. Eventually, JMB decided that there was so much potential in the aircraft that they wanted to take over production of the VL3.

The brothers approached childhood friend Francois Stelandre, to enquire as to whether he wanted to work with them. "I'd been helping with the sales of the VL3. I loved the plane so wanted to be part of the project," said Stelandre, who is the Design and Quality Manager at JMB now.

"I've known the brothers for more than 20 years and I

know when they want to do something, they'll do it well. So I was not afraid to follow them and be part of this amazing project. They also asked if I wanted to work with them, which I did, and it has been my role to adapt and improve the aircraft ever since."

Since JMB took hold of the VL3 Evolution improvements have been made to the airframe. The plane was essentially a good, solid aircraft, but JMB had its own ideas to make it even better. "We knew what the potential of the aircraft was, and knew we needed to make them happen to stay number one in the market. As Jean-Marie said, we have the best plane, but we explained that if we don't improve, our best plane won't continue to be, as others will catch us.

"So we modified the landing gear and the tail and we changed the looks slightly to make it look more sporty."

"The plane was essentially a good, solid aircraft, but customers and JMB had their own ideas"

THE AIRCRAFT

The VL3 is a glass-cockpit (although traditional gauges are an option) side-by-side two-seat aircraft with a retractable landing gear, that is clearly fast, thanks to the shape and lightness of the aircraft. It's an all-composite aircraft that can be broken down into individual units. Both halves of the wing and tail surfaces, including stabilisers, can be separated from the fuselage to ease aircraft transport.

The aerodynamic design of the wing gives the aeroplane good stalling characteristics. The design on the wing mean that at the critical angle of attack the airflow separates at the root of the wing, offer stable handling characteristics. Thanks to the area of the wings the stall speed of the aeroplane in landing configuration reaches a value of 30 kts. Each wing is fitted with two 60 litre fuel tanks creating a total volume



JMB knew it was buying a good aircraft, but realised that if no changes were made to the VL3 it would soon be left behind by other ULs and not be a viable option in the market, so improvements were made

The VL3 began life as an aircraft with the Aveko company



Fast, sleek
and stunning.
The Evolution
is instantly
recognisable



of 120 litres. Each tank can be fitted with lockable lids.

The internal structure of the tail stabilisers is similar to the construction of the wings. Therefore the tail surfaces can be completely removed from the hull, except the keel, which is an integral part. The elevator-trim tab is located on the right side, controlled mechanically by a wire. The rudder is controlled by steel ropes and the elevator by carbon rods.

The landing gear is operated simply by a switch on the dashboard, which also indicates — via an LED — whether the landing gear is up or down. It is hydraulically operated.

The wheels are pushed completely into the hull, without protruding from the profile of the aeroplane, which significantly contributes to reduce the airframe's drag. The landing-gear shafts are

"We are able to install a wide range of avionics into the aircraft, from conventional mechanical flight and engine instruments to a full-glass cockpit"

then completely hidden by a cover. The hydraulic unit is operated electrically. Therefore the landing gear is functional even if the engine fails. If the hydraulic unit fails JMB has installed an easy to reach, manual hydraulic pump next to the pilot's seat.

There are several engine options available with the VL3 Evolution, the Rotax 912UL with 80 hp, the Rotax 912IS and the 912ULS with 100 hp. The engine cooling has combined cooling — the cylinder heads are cooled by water while the cylinders themselves are cooled by air.

INSIDE

The cockpit is a very comfortable, roomy place to be, with a great view through the canopy. "We are able to install a wide range of avionics into the aircraft, from conventional mechanical flight and engine instruments to a full-glass

cockpit, or any combination, that the buyer wants," explained Stelandre. "We offer several types of GPS, radios and transponders. We have experience with installing two types of two-axis autopilots, which is particularly handy for long haul flights. On request of the customer we will equip the aeroplane with a VOR navigation system.

"Each panel is made to measure for the customer, according to the specification they have requested. The instruments are mounted in a laser-fired plate with surface inscriptions."

The width of the cabin (115 cm/3.77 ft) ensures a comfortable place for both occupants. The interior of cabin is equipped with basic fabric upholstery. But JMB offers a wide range of textile and leather versions in different colours. The solid seats are equipped with



The factory now has close to 100 employees and JMB states that at its current production rate, it is producing one Evolution every four days. Currently more than 300 are flying.

The roomy cockpit is more than comfortable, even for the larger-built pilot



four-point safety belts, the colour scheme of which is aligned with the colour of the upholstery.

The aircraft is equipped with a well-designed heating and ventilation system. The pumps are located under the panel on the left side, with warm air distributed around the foot well, whilst cold air passes through vents on the upper surface of the dashboard.

Behind the pilot seats there is a baggage compartment able to hold 25 kg/55 lbs of luggage. The compartment is accessible from inside the cabin, through the area above the seats, and is equipped with holders for headsets and audio outputs for their connection. JMB has added a new option this year — an exterior cargo door on the airframe, behind the pilots seats.

FLYING

With its sleek design and retractable landing gear, the VL3 is comparable to a

"A lot of people buy Ferraris but never go 200 mph in them, but they like them and buy them anyway"

sports car; slick, capable, and made for experienced pilots. "It's a magic aircraft because you can do a lot of things with it. You need just 130 m to land and 100 m to take off — so you can go anywhere and know you can take off again," said Stelandre. "It's super fast, super stable with a really low consumption. It's a nice toy. A lot of people buy Ferraris but they'll never go 200 mph in them, but they like them and buy them anyway. It's the same for the Evolution; some people won't go top speed, but others will."

With all its speed, the first customers to buy the VL3 were professional pilots or retired pros, but over the last few years JMB has seen a shift in its customer base. "It was professional pilots at first — because of its speed, it spoke to them. Now we have all types of pilots that want to fly for fun and at the weekends. A lot of people felt that this aircraft wasn't suitable for pilots that

wanted fun. When people first see the aircraft they expect it to cost €500,000. We like to tell them they could buy two-and-a-half VL3s and get their licence for that price," Stelandre explained.

GROWTH AND FUTURE

In just the seven years since the company began selling the ultralight it has gone from strength to strength. There are currently 320 VL3s flying, with 50 customers waiting. They currently are selling one or two aircraft a week, but Stelandre told me that six were sold in the previous week. The factory has the capacity to produce an aircraft every four days.

"We have just received certification from the Czech Republic for the 600 kg version and we will soon have certification in Germany. We are currently working for UK certification, so soon we will deliver the 600 kg version to the UK," said Stelandre. ■

TECH SPEC JMB VL3 EVOLUTION

ENGINE

Manufacturer: Rotax
Model: 912 - 914
Horsepower: 100 hp - 115 hp

DIMENSIONS

Wingspan: 8.44 m/27.6 ft
Length: 6.24 m/20.4 ft

Height: 2.05 m/6.9 ft
Cabin Width: 115 cm/3.77 ft

PERFORMANCE

Take off: 150 m/490 ft
Climb Rate: 6m/s 1,200 ft/min
Max operating Alt: 5,400 m/18,000 ft
Stall Speed with Flaps: 53 kmh/29 kt

Max Cruise Speed: 305 km/h TAS/165 kt
Landing Groundroll: 150 m/490 ft

WEIGHT

Empty Weight: 270 kg/590 lbs
Min Crew Weight: 65 kg/143 lbs
Max Baggage Weight: 25 kg/55 lbs
MTOW: 600 kg/1323 lbs





IMAGES Various

ALL THE FACTS ABOUT THE LAPL

AOPA continues to receive reports of a lack of understanding of the LAPL. Not just from LAPL holders themselves, but rather disturbingly we hear of poor knowledge displayed by instructors, examiners and DTOs. So Nick Wilcock is on hand to explain everything about the LAPL and see if it's right for you



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

T HERE is so much confusion about the LAPL that I thought I'd remind people about the requirements, privileges and limitations of the LAPL.

ORIGINS

Soon after EASA proposed revised PPL requirements, it was realised that the 45-hour course for the PPL was likely to be excessive for many aspiring pilots. So just as the UK had developed the NPPL for the same reason, EASA formed the MDM032 group to formulate proposals for a 'recreational pilot licence', which eventually became the LAPL, requiring only a 30-hour course. It was intended to be a licence granting TMG or SEP privileges only, restricted to VFR. Medical standards were to be less restrictive than for the Class 2 medical and could be granted by a pilot's own General Practitioner, rather than only by an AME. As for the NPPL (SSEA), licence privileges would only be valid on aircraft of no more than 2,000kg MTOM and with no more than four PoB, including the pilot. Unfortunately though, despite the problems the UK had experienced with the original 'rolling validity' of the

NPPL Class Ratings, the LAPL adopted similar requirements, but with 'privileges' rather than Class Ratings as such, which made it unique in format and is probably why many FIs and FEs are still confused about LAPL validity requirements.

LAPL VALIDITY

Like all other Part-FCL licences, the LAPL is valid for life. To maintain its privileges, a LAPL holder must meet the recency requirements of FCL.140.A(a):

- (a) Holders of an LAPL(A) shall only exercise the privileges of their licence when they have completed, in the last 24 months, as pilots of aeroplanes or TMG:
 - (1) at least 12 hours of flight time as PIC, including 12 take-offs and landings; and
 - (2) refresher training of at least 1 hour of total flight time with an instructor.

These are really very simple; a LAPL holder only needs to check back over the 24 months before the date of any flight to check that they have been met and there are absolutely no requirements for any signatures in the licence. However, although AMC1 FCL.050(i)(10) (iv) requires that any logbook entry for an instructional flight for SEP or TMG Class Rating revalidation purposes must be

countersigned by the instructor in the 'Remarks' column of a pilot's logbook, there is no similar requirement stated for LAPL privileges. Nevertheless, recent discussions with NAAs have concluded that LAPL holders are strongly recommended to include such signatures, if for no other reason than to prove to aircraft rental organisations that they meet licence recency requirements. Instructors conducting these flights are also advised to record the name of the pilot to whom they gave such instruction in the remarks column of their own logbooks, in case an NAA ever needs to confirm that the flight had indeed taken place as stated in the LAPL holder's logbook.

If a LAPL holder has not met these recency requirements though, they can be regained under the terms of FCL.140.A(b):

- (b) Holders of an LAPL(A) who do not comply with the requirements in (a) shall:
 - (1) undertake a proficiency check with an examiner before they resume the exercise of the privileges of their licence; or
 - (2) perform the additional flight time or take-offs and landings, flying dual or solo under the supervision of an instructor, in

order to fulfil the requirements in (a).

INSTRUCTORS

When Part-FCL was first proposed, EASA proposed that instructors for the PPL should not need to have 'CPL knowledge'; they would simply need to hold a PPL, meet the relevant experience prerequisites and gain an FI certificate. EASA also proposed a lower grade of instructor, termed the Light Aircraft Flight Instructor (LAFI). However, certain Member States noted that EASA's proposals ran contrary to those of ICAO Annex 1 para 2.1.1.1, which requires flight instructors to have met the knowledge requirements for the issue of a commercial pilot licence as appropriate to the category of aircraft included in the licence. AOPA's Instructor Committee objected to the idea of the LAFI as did the European Commission and it was deleted. Hence a compromise had to be agreed for LAPL-only flight instructors. Because the LAPL is a 'sub ICAO' licence, the provisions of ICAO Annex 1 do not apply, meaning that a PPL/FI who provides instruction only for the LAPL does not need to have passed the CPL exams. Such FIs may provide ab initio



"However, a pilot using a PPL restricted by medical to LAPL-level will still need to maintain Class Rating validity"

LEFT: If you want to fly, maybe the LAPL is the way forward for you

flight instruction only for the LAPL and, if appropriately qualified, for any ratings such as the Night Rating or Aerobatic Rating which can be included in the LAPL. But they may only provide such training, or indeed any other training, for LAPL holders. Nevertheless, provided that a LAPL-only FI can also meet the FCL.915. CRI(b) prerequisites for a CRI(A) certificate, they could also apply for the certificate and subsequently conduct any training which falls within the scope of the certificate for other licence holders. Hence AOPA advises any prospective LAPL-only FI to apply for both FI and CRI(A) certificates, assuming that they meet the relevant prerequisites for each certificate.

LAPL-TO-PPL UPGRADE

Many pilots who elect to train for the LAPL later decide to upgrade to the PPL. However, although EASA agreed in 2013 that a LAPL trainee who elects to change to a PPL course would be credited all previous flying training, in 2016 they changed their minds. Although IAOPA (Europe) is attempting to persuade EASA to agree to its earlier decision, currently, to gain a PPL a LAPL trainee must meet the requirements of

FCL.210.A(b):

(b) Specific requirements for applicants holding an LAPL(A). Applicants for a PPL(A) holding an LAPL(A) shall have completed at least 15 hours of flight time on aeroplanes after the issue of the LAPL(A), of which at least 10 shall be flight instruction completed in a training course at a DTO or at an ATO. That training course shall include at least four hours of supervised solo flight time, including at least two hours of solo cross-country flight time with at least one cross-country flight of at least 270 km (150 NM), during which full stop landings at two aerodromes different from the aerodrome of departure shall be made.

CHANGES TO PPL PRIVILEGES

Although the ATPL and CPL include PPL and LAPL privileges, an error in Part-FCL meant that LAPL privileges were not included in the PPL. Hence, if a pilot could no longer hold a Class 2 medical but was able to meet the requirements of a LAPL medical, the only option was to surrender the PPL and apply for a LAPL. This error has now been addressed and both FCL.040 and FCL.205.A are to be amended, so that a PPL holder will also have LAPL privileges

and the pilot's medical status will define which privileges may be exercised. However, a pilot using a PPL restricted by medical to LAPL-level will still need to maintain Class Rating validity in accordance with PPL requirements, as only pilots who hold an actual LAPL are subject to the 'rolling validity' requirements of the LAPL.

UK MEDICAL DECLARATIONS

The CAA introduced a method by which a pilot could self-declare their fitness to fly light aircraft, known as the Pilot Medical Declaration (PMD). The restrictions on the use of a PMD with a Part-FCL pilot licence are described in the CAA document ORS4 No. 1283 and are due to expire in April 2020; there are also provisions for holders of national UK licences to fly both EASA and non-EASA aircraft using a PMD, again restricted to the privileges applicable to the LAPL – i.e. VFR private flights in aircraft of an MTOM of no more than 2,000kg and with no more than four PoB, including the pilot. However, use of a PMD is only permitted within UK airspace and anyone using a PMD to fly within LAPL restrictions in this way must maintain Class Rating validity in accordance with the

regulations applicable to the licence they hold.

THE B-WORD

By the time you read this, we might know whether the government has actually managed to sort out an EU exit agreement – or whether the whole thing has been revoked. Nevertheless, the CAA has been doing a good job in keeping people in the picture as best it can, but one thing which needs to be understood is that, if there is a non-negotiated split from the EU and from EASA, a UK-issued LAPL or a Part-FCL PPL restricted by medical to LAPL-level will only be valid in UK airspace or in the airspace of a country with which an agreement has been secured. Somewhat reassuringly though, Westminster whispering indicates there is no political desire for the UK to leave EASA. Iceland, Lichtenstein, Norway and Switzerland are non-EU countries which are EASA Member States, so even if the UK does leave the EU, there is no reason why we should not also become a non-EU EASA Member State.

Hopefully this article will lead to a better understanding of the LAPL by students, instructors, examiners and training providers.

PART-FCL SEAPLANE-FLYING REQUIREMENTS

FOLLOWING on from the article in April's magazine which described FAA Single Engine Sea Rating requirements, this short article considers how a pilot holding a Part-FCL licence may obtain the SEP (Sea) Class Rating.

First though, some reality. Although in the UK we have a strong seaplane heritage, today there are hardly any water aerodromes available in the UK. A few exist in Scotland and Northern Ireland where national law is rather more permissive, but that's about it. Nevertheless, some seaplane training is available elsewhere in the UK.

SEP (Sea) Class Rating training requirements for single pilot, non-complex, non-high performance seaplanes are stated in FCL.725.A(b):

(b) for single-pilot aeroplanes (sea):

(1) the training course for

single-pilot aeroplane (sea) ratings shall include theoretical knowledge and flight instruction; and

(2) the flight training for a class or type rating (sea) for single-pilot aeroplanes (sea) shall include at least eight hours of dual flight instruction if applicants hold the land version of the relevant class or type rating, or 10 hours if applicants do not hold such a rating.

Theoretical knowledge requirements are fully described in AMC1 FCL.725.A(b); on completion there is a multiple-choice written examination of at least 30 questions with a 75 per cent pass mark, which may be conducted by the training organisation.

The content of the SEP (Sea) Class Rating Skill Test is stated in Section B.7 of Appendix B to Annex 1 of Part-FCL; for those who have downloaded the EASA 'Easy Access Rules for Aircrew',

this can be found on pp1323–1325 of 1735.

Having obtained a Part-FCL SEP (Sea) Class Rating, the regulatory freedom of EASA means that a pilot could use the rating in other member states where attitudes to seaplane flying are less restrictive. One of the more recent IAOPA (Europe) regional meetings was held at Lake Como, right next to the Aero Club Como, which is the oldest seaplane operation and seaplane flight school in the world. Seaplane activity was much in evidence throughout the day, which looked to be great fun; in addition to flying by qualified seaplane pilots, they also offer SEP (Sea) Class Rating training for the holders of any Part-FCL PPL(A). Similarly, seaplane training is available in other EASA Member States.

Revalidation requirements for pilots who hold both an SEP (Land) and an SEP (Sea) Class Rating may be completed in

either class or a combination thereof, in order to meet the requirements for both ratings, with the proviso that at least one hour of required PIC time and six of the required 12 take-offs and landings must be completed in each class.

Currently, seaplane privileges are not yet available for LAPL holders. However, this will shortly be rectified with amendments to FCL.105.A and FCL.140.A. LAPL holders with SEP (Land) privileges will be able to add SEP (Sea) privileges by meeting the same training and testing requirements as required for the holders of other pilot licences. Maintaining LAPL recency requirements for both classes will also be achievable through consolidated land and/or sea flying, again with the proviso that at least one hour of the required PIC time and six of the required 12 take-offs and landings shall be completed in each class. ■



If you want to receive your SEP (Sea) Rating, you'll have to prepare to travel



NEW NAVIGATORS FROM GARMIN

Garmin launches two new navigators offering WAAS/LPV approaches and optional integrated ADS-B In/Out

Product GPS 175
Maker Garmin

GARMIN never seems to rest and has launched two new products, the GPS 175 and GNX 375 GPS navigators with Localiser Performance with Vertical guidance (LPV) approach capability. Pilots receive the benefits of WAAS/SBAS GPS guidance in a compact design that is easy to incorporate into an existing avionics stack. The GPS 175 is a stand-alone certified IFR navigator with a colour touchscreen display that's packed with features and capabilities including WAAS/LPV approaches.

The GNX 375 has all of the capability of the GPS 175 and adds Automatic Dependent Surveillance-Broadcast (ADS-B) Out, as well as dual-link ADS-B In via a built-in transponder. Intended for Class I/II aircraft that weigh 6,000 lbs/2,721 kg or less, as well as experimental/amateur-built (EAB) aircraft, the GPS 175/GNX 375 have received Supplemental Type Certification (STC) and are available immediately from Garmin authorised dealers for over

700 aircraft makes/models. "Many aircraft have not been equipped with WAAS/LPV or ADS-B due to the lack of a compelling value proposition for owners of these aircraft," said Carl Wolf, Vice President of Aviation Sales and Marketing. "The GPS 175 and GNX 375 offer WAAS/LPV approaches and optional ADS-B In/Out with an impressive array of features, performance, and compelling value."

Slim and unobtrusive, the GPS 175/GNX 375 include a WAAS/SBAS GPS that is IFR approach-capable. A vibrant, colourful touchscreen display boasts a familiar Garmin user experience that enables quick and intuitive entry of flight plan information, while a dual concentric knob and dedicated home button offer added versatility when interfacing with the touchscreen. Dedicated pages within the GPS 175 include a moving map, flight plan, nearest, procedures, waypoint information and terrain pages, and the GNX 375 adds traffic and weather pages. The addition of a dedicated direct-to-

button on the touchscreen offers quick access to direct airport or waypoint navigation. Customisable data fields and short cuts on the moving map to pilot-selectable pages such as the nearest airport allow for quick, one-touch access to important information in-flight.

The GPS 175/GNX 375 offer unique benefits that only a touchscreen can provide, such as graphical flight plan editing, allowing pilots to more easily edit their flight-plan based on an ATC amendment or weather.

Features such as FastFind simplify flight-plan entry by applying predictive logic to suggest airports and waypoints using current GPS location, while Smart Airspace makes it easier for the user to identify pertinent airspace on the moving map. The addition of SafeTaxi airport diagrams displays runways, taxiways, Fixed Based Operators (FBO's), hangars and more, relative to the aircraft's location on the airport surface. ■

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FLARM WINS UK AWARD

FLARM was awarded the UK BGA's Bill Scull Safety Award during AERO 2019. The Bill Scull award is presented to a person or organisation for services to gliding safety.

Mid-air collisions have killed 33 UK glider pilots since 1975. Almost all mid-air glider collisions are with another glider, and they mainly happen in thermals and around airfields, where other gliders can be hidden from sight behind the glider structure.

In 2004, three Swiss glider pilots applied their engineering expertise to design a system that would alert pilots about an imminent collision and give an indication of the direction in which the threat lay. The founders of this system became known as FLARM. Today, most of the active UK glider fleet carries the FLARM system and there have been no glider-glider collisions since 2014.

FLARM continued to develop the system to improve its performance, add functionality to measure antenna performance and find lost gliders and to build-in an obstacle database.

For devising and continuing to develop this safety system, FLARM is the deserving recipient of the Bill Scull Safety Award.

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THE LESSER-KNOWN PILOTS OF WWII

Csaba B. Stenge tells the story of the Hungarian Air Force and its forgotten role in the Second World War

Book Forgotten Heroes
Author Csaba B. Stenge

THERE are plenty of well-known stories from the pilots and Air Forces that 'did their bit' in the Second World War. But the Hungarian Air Force is one of the few that isn't known that well.

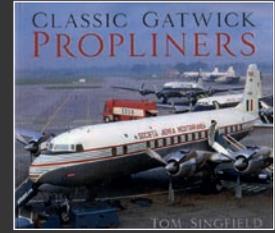
Prior to the beginning of the Second World War, the Royal Hungarian Armed Forces – including the Air Force – prepared to engage the Little Entente forces. However, after a short skirmish prior to the war with the Slovaks, during the war their opponents became the Soviet and American aviators. The Hungarian aces fought gallantly against such heavy odds and, after the war's end, the new Hungarian communist regime turned against them too. This book is the unique story of the 38 Hungarian air aces of the Second World War. The overwhelming majority of the related materials have been lost or destroyed, so the author has demonstrated truly Herculean efforts during his 23-year-long extensive research to write this monumental work. The book is based mostly on previously unpublished primary sources from Hungarian, German, Russian and American archives, and also on the preserved documents of the aces and their families. The text is not limited to the highly-detailed biographies of the 38 Hungarian aces; it also covers some important

related aspects such as air victory confirmation systems, air combat tactics and obtained awards. Besides this, the book contains more than 350 rare images – many of them previously unpublished – and a selection of superb colour profiles, which show camouflage and markings for the aircraft of the aces.

Csaba B. Stenge was born in 1975. He is a historian and his PhD describes the history of the Royal Hungarian Air Force in the Second World War. The focus of his research is aviation and

military history – especially of the Hungarian Armed Forces and Air Force in the Second World War. He has spent the last two decades conducting intensive research – both in archives and with veterans and their families – looking for surviving wartime materials relating to the Royal Hungarian Air Force. He has written eight books and more than a hundred scholarly articles in the Hungarian, English, German and French languages. ■

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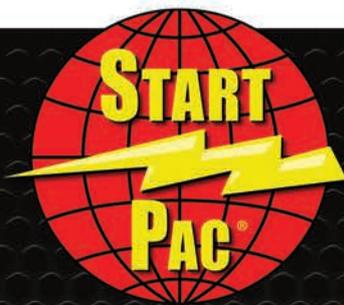
GATWICK'S HISTORY

Book Gatwick Propliners
Author Tom Singfield

WHEN Ronald Waters bought 90 acres of farmland adjacent to the Gatwick racecourse in 1930 in order to set up a private airfield, little did he know how that airfield would evolve over the next eighty-nine years to become the world's busiest single-runway airport. Back in the 1960s and '70s it became a hub for aircraft enthusiasts and photographers who, thanks to the viewing decks, could get up close to the aircraft and enjoy the eclectic mix of new jetliners and old propeller airliners. Tom Singfield, ex-Gatwick Air Traffic Controller and a fan of all classic airliners, has long dreamt of a book showcasing the glory days of Gatwick's classic airliners. After thirty years of searching out the very best colour images of that time, he is now able to publish the results of his searches in this book. These stunning pictures celebrate those wonderful times and the amazing and much-missed 'propliners' that operated from Gatwick for the first twenty years after its reopening in 1958.

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