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# WHAT DOES BREXIT MEAN?

s this issue drops through your letterbox, with the General Election only a few days away, the media will no doubt be full of the latest opinions on Brexit. At the time of writing, there has been little serious debate of its impact on aviation; not unsurprisingly, since this is not a major issue for the voters. In GA, and as part of the UK aviation community, there may be farreaching implications affected by the regulatory regimes of EASA and the CAA.

Nearly a year has passed since the referendum, but no clear picture has emerged to show how the CAA and its relationship with EASA might be affected. At the BBGA's (British Business and General Aviation Association) Annual Conference, Andrew Haines (CAA Chief Executive) observed that the political nature of Brexit meant there could be no meaningful assurances about how things could turn out. It is apparent that the CAA must await the future direction and strategy from the Department for Transport. Lord Ahmad, the Parliamentary Under Secretary of State for Transport, published a speech to the "aviation industry – its airports, manufacturers and airlines". Although Brexit was mentioned, it provided no real clue as to the DfT's thinking on the topic, despite singing the industry's praises. On a more positive note, it has been reported that Lord Ahmad has referred to a government commitment to "make the UK the best place in the world for GA".

The alternative to staying within EASA, even though no longer a member of the EU, is possibly to go back to the pre-EASA and pre-JAA (Joint Airworthiness Authorities) regulatory regimes. The rationale of the JAA was harmonisation; it was established in 1970 with the purpose of producing common certification codes for large aircraft and engines to meet the needs of European industry and international consortia such as Airbus. In 1987 the JAA expanded its remit to take on operations, maintenance, and licensing. However, there were complaints because of the way the different states applied the regulations. The EC decided to improve the situation in 2003, by replacing JAA with EASA, which bound the member states to the system through EU law. Harmonised manufacturing and certification rules provide cost benefits, and harmonised piloting and airspace standards improve flight safety when flying across Europe. The downside has been that although EASA regulators aimed to minimise risk, the administrative burden increased – although this has now been recognised and moves have been taken to simplify things. Throughout the debates, AOPA has sought to achieve the best outcomes for GA. Now, the time and effort spent over the last 30 years on harmonisation of aviation standards across Europe is at stake. Other factors to consider may be the effect of tariffs on new aircraft and parts sales on leaving the customs union, and freedom of movement across Europe for those in GA. AOPA will press hard for a prior impact assessment to ensure the UK is the best place in the world for GA.

On a lighter note, at the final day of AeroExpo UK 2017 at Wycombe Airpark on 01-03 June, we will be announcing the winners of the AOPA awards at the presentation in the AOPA marquee at 14:00. I look forward to seeing you there.



Olyge Done,

**George Done** Chairman, AOPA UK george@aopa.co.uk



### **EDITOR**

David Rawlings david.rawlings@aopa.co.uk

### **ART EDITOR**

Dan Payne dan@aopa.co.uk

### **CONTRIBUTORS**

Adam Winter, Lucy Field, Pauline Vahey, Ian Marshall, John Walker, AirTeamImages

### **PUBLISHED BY**

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### ADVERTISING & SUBSCRIPTIONS

AOPA UK British Light Aviation Centre 50A Cambridge Street London, SW1V 4QQ +44 (0)20 7834 5631

### **HEAD OF ADVERTISING**

David Impey +44 (0)7742 605338

### **PRINTING**

Fisherprint
Padholme Road
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Articles, photographs and news items from AOPA members and other readers are welcome. Please send to the Editor. Inclusion of material in AOPA Magazine cannot be guaranteed, however, and remains at the discretion of the Editor. Material for consideration for the August 2017 issue should be recieved no later than 26 June 2017.

# CONTENTS JUNE 2017

07

**CHIEF EXECUTIVE'S DIARY** Once again Martin Robinson has been in countless meetings and seminars to make sure the interests of AOPA members are upheld.

09

**AOPA COMMUNITY** The new section of the magazine that's there especially for you, the member and reader. It's your one-stop-shop for all things AOPA

10

**WORKING FOR YOU** Read about the hard work the Members Working Group and Corporate Members Committee have been doing in the interest of the pilot.

13

**AIRFIELDS UPDATE** John Walker updates us on the latest developments and applications on the airfrields under threat across the UK, including RAF airfields.

**14** 

**PPL CORNER** Adam Winter explains how to make sure you're at a high enough altitude, and the difference between QNH and QFE – you don't want to hit anything!

**17** 

**TRAINING** The Training Committee
Chairman, Ian Marshall talks about his hopes
and dreams for the future of AOPA's Training
Committee and what it can do for you.



18

**NEWS** As always, there's been plenty happening in the world of General Aviation. We look at the latest aircraft from Tecnam, Robin and Piper.

25

**FLYING GUIDE** The 2017 AOPA Flight Directory includes everything you need to know about what's on offer at flying schools around the UK.

36

**COVER STORY** The TTx has a back story unlike many other aircraft. It all began with Lancair and NASA. We look at how it came to be the fastest production piston aircraft.

45

**TECH REVIEW** French manufacturer Factem has launched an ANR headset it says will rival the Bose A20 and Lightspeed Zulu. We take a look and have a listen.

47

**BOOK REVIEW** We review two books in this issue; firstly the life, career and aircraft of Geoffrey de Havilland, and secondly a look at aerial desert warfare 1940-42.

48

**CLASSIFIED SALES** Search for your new aircraft or a share in an aircraft, right here! Or if you need something for your pride and joy, these are the pages for you.





### EDITOR'S MOMENT

### **AVIATION IS BACK**

I was recently lucky enough to head back to Aero Friedrichshafen and look at everything on offer.

It was great to be amongst the new aircraft, advancements in avionics, and drink some German beer (I'm only human), but the thing that filled me with the most joy was the amount of people that attended. Having seen Friedrichshafen empty for a number of years it really buoyed me to think that the industry is back – in mainland Europe at the very least.

According to Aero, more than 34,000 people attended the show – that's up almost 4,000 people than last year. It's a fantastic shot in the arm for General Aviation.

### **AN APOLOGY**

In the April issue of AOPA UK (UL91, The Perfect fuel.) it was stated that Warter Aviation were the only produces of UL91. This was incorrect. Other manufacturers, such as Total, Hjelmco and Swift also produce UL91. It was not the magazine's intention to mislead and we apologise.







# PLANNING AHEAD, TOMANAGE RISKS AVIATION INSURANCE BROKERS



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# WILL BREXIT HELP OR HINDER UK GA?

hen it comes to Brexit and possible changes, people ask me if we will remain a part of EASA, and my reply is, what's the alternative? A non-harmonised aviation system?

If anyone believes that post Brexit we will have a different set of rules, I think they are mistaken. The government has already stated that the Existing rules will become UK regulations which is an interesting point as EU law is automatically UK Law! The only difference being is we will have the ability to amend them if there is a need to do so.

As you have heard, the aviation minister Lord Ahmad, confirmed that it is the UK government's position for the UK to be the best place in the world for GA. I hope this policy survives the election and that Lord Ahmad keeps his post. This simple statement allows us to focus on other policies that can shape how the UK achieves that goal. It means we can push for policy changes that underpin that statement.

Brexit should offer some benefits to UK GA and regardless of one's personal views; we all need to focus on putting GA in pole position. With that in mind I have been working with Chinese businesses as I seek to make sure that UK GA can access that market and vice versa. The next five years will be important for both countries and working together could lead to more business.

### **MARCH 18TH**

We had an AOPA members working group meeting In Seething. Whilst the weather was marginal, a number of members managed to arrive by air. If other members would like to take part in these meetings please let us know.

### **MARCH 25TH**

I went to the GA show in Kortrijk to support one of our corporate members

involved in simulator developments. With 57 exhibitors it was big enough for EASA to present its latest views on the GA road map. EASA is actively promoting GA's importance.

Whilst some in the industry have been waxing lyrical about CS 23/FAR 23 Standards I think it's too little too late and will have no major impact on the price of newly manufactured 2/4 seat aircraft. The rest of the event was dedicated to simulation and drones. But well done to the organisers for arranging the event.

### **APRIL 4TH-8TH**

I was at Aero Friedrichshafen mainly to support to GSA through the work we are doing with project GAGA which is about developing GPS approaches (under CAP 1122). Although quite small the quality of the discussions was very good.

### **APRIL 12TH**

I was in Shanghai as a speaker at ABACE. I was asked to present on Open Skies policy and to moderate the panel session on drones. China is fairly advanced with drones and robotics in some areas and it was interesting to see how far this has developed.

I was also a speaker at the CAAC's Eastern region conference talking about the economic benefits of GA.

It's encouraging to see that the level of GA activity continues to grow in China.

### **MARCH 20TH**

I met with Jim Marren from the CAA who has extensive GA flying experience. Our discussion covered many topics and I look forward to our next chat.

### MARCH 26TH-30TH

Zhengzhou Air Show China. The main focus of the event was the FAI's formation aerobatics competition which involved 14 teams, three of which came from the UK, the Breitling Wing Walkers, the Blades and the Yakovlev team plus Mark Jefferies.

They all did a great job showing exceptional levels of professionalism with skill. For me, the highlight was the achievement of the two aircraft that flew to the event, from Zurich and from Thailand (more to follow on this).

With the support of Philly and Sky from the Zhengzhou Air Show team a great deal was achieved.

I am proud to have been able to help organise this in a small way.

### **MAY 6TH**

136th European regional meeting in Vienna Austria. The Austrian AOPA were excellent hosts. The subjects discussed mainly covered EASA and drones. Dominque Rowland of EASA spoke about the GA Road Map and its progress, whilst Nick Wilcock gave an update on FLC matters.

For me, the changes to the basic regulation once they have been adopted, is the enabler to change a proportionate, risk based (something in relation to the activity) regulatory environment. This should consign our regulation to the history books.

However changes made to the advisory bodies have in my opinion removed a level of democracy. Again it is my view that the EASA management board (member states) no longer has an independent body to speak with.

Aviation needs to be able to speak freely and openly on issues from time to time.



### RETAIL:

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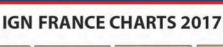
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Welcome to the new AOPA Community section of the magazine, bringing you all the news and insight from the world of AOPA...



**WORKING FOR YOU** Finding more instructors.



**AIRFIELDS UPDATE** 

News on threatened airfields.



PPL CORNER

A rough guide to altimetry.



TRAINING COMMITTEE

The hopes of the committee.



**WORDS** Pauline Vahey

# OPA WORKING **TO EUSURE YOU**

The AOPA Members Working Group and the AOPA Corporate Members Committee are there to ensure the aircraft owner and pilots' concerns are being looked out for...

### **AOPA CORPORATE MEMBERS COMMITTEE**

Latest updates from the CMC meeting held at White Waltham on 30 March 2017

### **INCLUDING INFRINGEMENTS**

Martin Robinson has written a formal letter of complaint to Tony Rapson, Head of the GA Unit, CAA about the interviews the CAA has been conducting with those who have infringed. He quoted a specific recent case where the process and the punishment had no logic to it at all. The CAA interviewers, in this example, were a helicopter pilot and a BA Captain, neither had any GA experience. In Robinson's view the process and the punishment should be proportionate and fair. The CAA should not be acting as judge and jury. The questionnaire/test required to be passed was also being reconsidered as the pass rate was unsatisfactory. In turn, the CAA is going to begin monitoring which flying schools and airfields infringe.

Robinson restated that if there were any infringements from members please let AOPA know, as AOPA was happy to help out.

Another issue requiring clarification was that as of 24 April the new Class D regulations preventing the take-off and landing but not transit, when the cloud base was below 1500ft, would have significant effect on flying training in controlled airspace such as that at Redhill and White Waltham. The AOPA LPV project is making progress at Haverford West, Gloucester and Stapleford. There will be another funding call for further applications for LPV approaches. Funds up to 60% of the cost to upgrade the equipment in the aircraft is being discussed and EASA said that vertical guidance systems to be mandatory by 2020. AOPA is also getting involved in a project for the next generation of ELTs, ADSB and transponders.

### **SHORTAGE OF FLYING INSTRUCTORS**

Simon Atkins has been working with Flybe's training manager to keep instructor flow going. He is also working with Bucks University to get the students credits for FI hours in their courses.

AOPA has been working with a task group at EASA reviewing the CPL exams

required to become an FI. Pauline Vahey had arranged to meet a representative of the European Regional Airline Association to discuss how AOPA and the ERAA could collaborate on this issue.

After the meeting, Vahey is now working on an initiative to start a scheme not dissimilar to the old Cabair and airline sponsored scheme. The opportunity to train overseas pilots was discussed, and it was noted that the Indian Airforce was currently at WLAC and Chinese pilots were being trained at Booker. Martin Robinson suggested tendering through AOPA's Chinese connections to offer training for Chinese pilots.

### **AOPA MEMBERS WORKING GROUP**

Latest updates from the MWG meeting held at White Waltham on 18 March 2017

### **MEMBERS RECRUITMENT**

Arrangements have been made for the next MWG meeting to be held at On-Track's premises at Wellesbourne Mountford with a view to starting a Midlands regional MWG.

There has been a suggestion of holding AOPA

road shows around the country; a presentation on the Friday then the MWG meeting the following day, was discussed and was received favourably. This way local pilots in the regions can meet other members and engage in promoting GA.

Martin Robinson reiterated that AOPA is the only independent association and we should be reinforcing this in messages to our members.

### **NEW AOPA WEBSITE**

Following an appeal for help with the website content at the last meeting, Mick Elborn reported he had been provided with a very useful review of the current website and has received suggestions for future content. As a result Elborn has revised the structure of the new development site, but was making slow progress on producing new content. Progress has been slowed due to having to test the site on a new server before being migrated to it. The new server allows a move to secure pages, which are needed for the web shop to comply with ecommerce requirements. This will involve more work and is subject to determining AOPA's online shop presence.

### HANDLING OF INFRINGEMENTS

Timothy Nathan gave a report on the consequences and political impact of the current rate of infringements. He stated that listening squawks were to be printed on charts and in Sky Demon. In the future, education on this was will be incorporated into GPS training.

Robinson explained the process that the CAA has now adopted for dealing with those who infringe. A new questionnaire/test that formed part of this process was being developed with AOPA input, as it had been accepted that the current online exam was not fit for purpose. It was suggested that other organisations such as AOPA or GASCo be involved in the retraining and testing of those who infringe.

Robinson also pointed out that this topic shows the benefit of belonging to membership associations who had the critical mass and size to make a difference when lobbying and also whose arguments were recognised as good quality.

### **AOPA CEO'S UPDATE**

Robinson has been working with General Business Aviation Strategic Forum, who comprises of AOPA, the British Business GA Association, the GA Alliance, the CAA Board and the Aviation Minister.

The current view is for a preference to stay with EASA so the UK can keep its influence on the rules that they would have to comply with in any event. Robinson has received support from Lord Ahmed after their meeting and has volunteered to write letters to his colleagues as the need arises.

There are to be three consultations this year; Heathrow, Airspace Change policy, which the Government will need to stand by legally "The current view is for a preference to stay with EASA so the UK can keep its influence on the rules"

and the Aviation Framework Policy which will integrate GA into it.

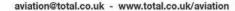
Robinson discussed the issue of the closure of airfields and the need for a national network. The starting point being the current licensed airfields that support the overall GA activity in the UK. The future growth in single pilot engines and single pilot IFR operations provided a good opportunity for GA Airfields to expand their businesses by increasing activity around GA. Travellers would benefit by arriving closer to their destination and the security process would be much more time effective.

The UK is becoming an attractive place for foreign pilots to train because of its reputation for high training standards. AOPA is lobbying to get the right taxation structure to make flying training more competitive in the training market.





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WORDS John Walker IMAGES AirTeamImages.com

# LATEST UPDATES ON UK AIRFIELDS

John Walker provides all the latest news relating to the UK's airfields

AOPA has been working hard with Lord Ahmed to try and stem the closure of airfields across the UK. If something isn't done soon, GA could be under serious threat. Here are the latest developments from around the country — updated 24 April 2017.

### **CHALGROVE**

Airfield occupied and operated by Martin-Baker Aircraft has been transferred from the MoD to the Homes and Communities Agency (HCA). Site is included in South Oxfordshire District draft Local Plan second Preferred Site Options consultation document for a 3,000 home development.

### **KEMBLE**

Commercial Estates Group (CEG) proposal to build a 2,000 home sustainable village on this 'brownfield' site as an alternative to the draft Cotswold District Local Plan proposal for a greenfield

site near Cirencester.
Public consultation on the draft Local Plan has been completed and definitive Plan was due to be submitted to Planning Inspector in Autumn 2016 but has been delayed to allow further consultation on proposed, unrelated changes to the draft Plan.

### **HULLAVINGTON**

The former RAF Hullavington airfield site has been sold to Dyson Ltd who have submitted a planning application to renovate two existing Type D hangars as a prelude to producing a site masterplan.

### **MANSTON**

River Oak has given notice of intent to apply for a Development Consent Order for the aerodrome as a Nationally Significant Infrastructure Project. The site owners have submitted a planning application to Thanet District Council for



A proposal to build 2,000 homes near Kemble has now reached the draft stage but has been delayed

a mixed-use development with provision for an airstrip allowing occasional landings by Spitfire aircraft in conjunction with existing museums. A different application by another party for change of use of airport buildings is the subject of a full Planning Inquiry. The Council commissioned a study into the future of the site as an airport for commercial operations in

support of their Local Plan submission for mixeduse development and this study concluded that such operations were not viable.

### **NORTH DENES**

The airfield (also known as Yarmouth Heliport) with two grass runways has been put up for sale having been disused since 2015 on the cessation of North Sea helicopter operations.

### **MOD SITES**

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

Abingdon 2029; Alconbury 2023; Arbroath, RMB Condor airfield 2020; Brawdy, Cawdor Barracks 2024; RMB Chivenor 2027; Colerne 2018; Dishforth airfield 2031; RAF Halton airfield 2022; RAF Henlow 2020; Mildenhall 2022; Molesworth 2023; North Luffenham 2021; Former RAF Wethersfield airfield is being transferred to the HCA in 2020.

In addition to the above, RAF Wyton airfield is being sold off – Defence Infrastructure Organisation and local

property developer Crest Nicholson have proposed for up to 4,500 homes on site. The site has been earmarked in draft at Huntingdonshire District Council Local Plan for mixed-use development including housing but road infrastructure issues are expected to result in the scheme being deferred beyond Local Plan period.

In addition to the above, RAF Wyton airfield is being sold off - Defence Infrastructure Organisation and local property developer Crest Nicholson proposal for up to 4,500 homes on site with planning application expected to be lodged in early 2017. Site earmarked in draft Huntingdonshire District Council Local Plan for mixed use development including housing

# A ROUGH GUIDE TO ALTIMETRY

Understanding how high you are off the ground and above obstacles can be quite useful in an aircraft, especially when it comes to avoiding hitting things, so says Adam Winter.

Altimeters can do the job quite well, although they can only tell you the difference in height between two points, namely the one you set on the subscale and where you are. The altimeter does not know where the top of a hill, the ground or the sea is. That is up to you. You need know how high to fly to avoid an obstacle, and you need to know how high you are above the sea in order to avoid it. A clear understanding of the altimeter settings is essential for this.

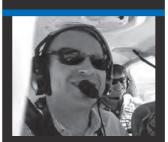
'Q' codes were originally created by the British Government in the early 1900s and were a list of abbreviations licensed by the Postmaster General for the use on ships over the radio. They were either a question or an answer (advice). It was a way of abbreviating the Morse Code. The list is

extensive, even the original had 45 codes, and is still widely used by amateur radio enthusiasts.

QNH and QFE are both altimeter settings. When QNH is set on the subscale, the altimeter will tell you how high you are above sea level (your altitude), and when QFE is set, it will tell you your height above the ground. It might be an obvious thing to say at this stage, but sea level remains constant as far as aviators are concerned. Ground level does not remain constant.

QNH, when set on your altimeter, will give your height above sea level. So if you are on the ground at an aerodrome and you set the QNH (the pressure at sea level) the altimeter will read the elevation. Your height above sea level is called 'altitude', so QNH set on the subscale gives your

### **ADAM WINTER**



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

altitude. If you are at Elstree your altitude at ground level is about 330 feet, at Biggin Hill it is about 600 feet, and Southend about 60 feet. Remember the QNH is a measurement or calculation of air pressure at sea level. Pressure changes constantly, whereas the height of an airfield doesn't, so the difference between OHN and OFE is constant. At Elstree the QFE is always 11hPa less than the QNH, Biggin Hill will always be 20hPa less, and Southend 2hPa (see the diagram below). When you set the QFE on the ground at any airfield your altimeter should read Oft. Most circuits are then flown as a height, usually 1000 feet above ground level (AGL).

### **DIVIDED REGIONS**

When you are flying cross country and you are in the vicinity or below the controlled airspace of a large airport like Heathrow or Birmingham, you would use the QNH for that airfield. The UK is also divided into several "altimeter setting regions", and if you are not

# DIFFERENCE BETWEEN QNH AND QFE QNH WILL TELL YOU HOW HIGH YOU ARE ABOVE THE SEA. QFE WILL TELL YOU HOW HIGH YOU ARE ABOVE THE GROUND. ELSTREE 330FT SOUTHEND 60FT 330FT = 11 HPA (QFE 1009 HPA) SEA LEVEL QNH 1020 QNH 1020 QNH 1020 QNH 1020

flying in the vicinity of a large aerodrome you could use one of the regional settings. It is defined as the lowest forecast setting for that hour. They can be obtained from any ATCSU (Air Traffic Control Service Unit).

### **UNDER PRESSURE**

Finally there are 'Pressure Altitude' and 'Flight Levels'. I doubt as a PPL you will use these often but you should know about them. Pressure Altitude is simply the altitude the altimeter gives you when you set 1013hPa on it. If you have a transponder in your aircraft with a digital readout, you might have noticed that the height given on the display is a pressure altitude (transponders have no barometric components). Sometimes flying around Elstree on a day with particularly low pressure, our transponder reads 2700 feet, even though we are 2300 feet above sea level (on the QNH). But the London TMA is at 2500 feet! Don't worry, the local radar stations know we are not infringing and it is because of the low pressure.

Flight Levels are generally used when you are high enough that a large drop in sea level pressure would not result in the aircraft descending enough to put the plane in danger from obstacles or aircraft flying on the QNH. When you fly a Flight Level on the pressure setting 1013hPa, you call your altitude 'Flight Level'. Flight Levels are stated in increments of 500ft; you knock off the last two zeros and call it 'Flight Level'. So reading 5000 feet on your altimeter with 1013 set on it becomes 'Flight Level Five Zero', or FL50. Imagine all the planes flying across the Atlantic having to change altimeter settings as pressure

increases or decreases. Even airline pilots aren't paid enough for that, so they use 1013hPa. If the pressure on route drops by 20 hPa, and the aircraft descends 600 feet, as long as all the other planes flying that route have the same pressure setting, there would be no problem that the actual altitude is changing as there are no obstacles. Things become slightly more complex when looking at the altitude at which you can change from using an actual pressure setting (QNH) and 1013. This is known as the 'Transition Altitude'. Have a look at the diagram. As long as the actual QNH is above 1013hPa, then flying on the 1013hPa pressure setting as a Flight Level is safe. When the pressure is above 1013hPa, there will be no conflict with aircraft on ONH below the transition altitude. If however the sea level pressure is below 1013hPa, then if you were to fly at the first Flight Level above the transition altitude you might be in conflict with an aircraft using altitude.

There are lots of books and apps that deal with altimetry, and as I mentioned earlier, it is a really important subject to understand. For example, it you are doing a standard overhead join to an airfield below a TMA (eg Elstree), and have the wrong altimeter setting, vou could, at 2200 feet indicated (on QFE) be in the London TMA, which starts at 2500 altitude. Make sure this is a topic you understand both mathematically and practically. Your instructor will help you with the practical side of altimetry.

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



WORDS Ian Marshall

# **FRAINING TRIVIA**

Since being asked to Chair the Instructors Committee, Ian Marshall has been asking himself what is the purpose of this esteemed body

Now I have been a member of this group for years and it has been a very enjoyable experience. A great opportunity to exchange experiences, opinions, and frustrations with some of the most qualified instructors in the land. Now I find myself having to ask what have we managed to achieve for the AOPA members in all aspects of flight and ground training?

Yes we have scared off some of the more ludicrous EASA and CAA nonsense. addressed some student's problems and established a nationally recognised programme of instructor seminars. But now the real question is: how can we improve the future for training?

Let us look at one of the basic issues. Anyone catching the flying bug – and let's face it - it is pretty infectious, is incredibly vulnerable. They can be talked into flying knackered old aircraft, with willing but inexperienced flying instructors who are usually earning less than the living wage. The student has nowhere to turn to for advice except perhaps their fellow trainees whose help often goes along the comrades in adversity line.

So here is a start; lets change the name of the instructors committee to the Training Committee/Group/ Workshop or whatever you like to reflect the need for partnership between instructor and student. I have therefore put it to the group that we must embrace the concept of being accessible

to all AOPA instructors and students to offer support, advice, and if need be mentoring. This has been adopted unanimously and with enthusiasm.

So you will see in the future training tips being published, senior instructors attending major AOPA events and, shortly you will be able to contact instructors with over 20,000 hours' experience via my AOPA e-mail

(In the meantime the office will forward any emails).

### **BRITISH GA NEEDS ADDRESSING**

Ever increasing prices, regulation, and airspace restriction drive more and more people to do other things. I know one 1000hr pilot who stated in torment that one more bit of aggravation, and he was giving up flying after 30 years. I know exactly how he feels. Trying to get circuit slots for students, having to carry GPS trackers to ensure noise abatement, buying PLB beacons in case I come down in inaccessible and wild Surrey, 8.33khz radios that nobody wants; not even ATC. All of this drives me up the wall to the point that I am having sailing lessons!

When I started flying instruction I went and saw the CAA regulator about setting up a company flying club at Old Sarum. You could actually visit them in those days, which was refreshing. The brief I got was, and I quote: "Get your boys and girls together, write two pages of basic rules and get

### IAN MARSHALL



lan has more than 17,000 hours of Air Transport, Flight Training, Air Taxi, Freight, and Aerial Work in his logbook. He pioneered twinengine aerial advertising, worked as a contract flyer for the military and has been instructing since 1981.

on with it." Nowadays we need documentation, which is a drift down from the airline world, just to punt around in a C152 teaching straight and level. The sad fact is that for all this incomprehensible twaddle we are bombarded with by various authorities, we are still pottering around providing good and safe flying instruction. When there is this level of disconnect between the governed and those doing the governing then something is wrong!

Look at airspace. After 25 years flying out of Heathrow and White Waltham I am a firm believer that we in proper aeroplanes should not mix with the big boys. They are just too big, fast, and deadly.

However I also think the sky was not given by nature to airport operating companies for the sole purpose of making money. We have as

much right to be in the sky as they do.

So, if they want to control their environs then airport companies should be made to make provision for accessible radar coverage. This will allow other aeronautical traffic to do their best to avoid that airspace. Yes it is going to cost money but it will be less than the annual rent of a terminal shop at most of these airports. If we want to avoid infringements then airports need to get their financial priorities right.

I am going to finish on a message of hope. Four of us hired the club's PA32 and spent a couple of days at the Friedrichshafen Aero Fair. Why is this a great place to be cheered up at? Well simply it is the energy exhibited. Company after company are ignoring all the tradition mend-and-makedo attitude of GA and are actively providing the flying community with wonderful new toys.

There is someone there who will sell you a brand new Bucker Jungmann, another will provide you with a Stampe made out of lightweight materials and powered by a Rotax engine, and yet another will get you flying in a people-carrying drone-based aircraft!

All of these lovely shiny machines bring joy to the heart and the reassurance that there is a future for light aviation. That is of course if we don't get legislated out of existence in the meantime.

Hope to see you all soon at Aero Expo. ■



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# AOPA NEWS

General Aviation news from around the world



# TRAVELLER ON TRACK

Tecnam's mini airliner, the P2012, is on track for EASA and FAA certification for late 2018 with deliveries beginning immediately after

by David Rawlings

With a show of confidence at AERO Friedrichshafen, Tecnam debuted its new mini-airliner the P2012 Traveller and at the same time launched a Slot Deposit Programme. With a €100,000 deposit, it will secure potential owners the delivery of the aircraft in 2019 and a freeze on price, which currently stands at €2.2m (subject to Economic Price Adjustment).

The P2012 was on view at the recent show in Germany, interrupting its intensive flight test programme, and created quite a stir.

The twin Lycomingengined 11-seat P2012 Traveller first flew on 21 July 2016 and, according to Tecnam, has been much anticipated by many airlines, who have been demanding a replacement for the many hundreds of 'heritage' aeroplanes in the FAR23/ CS23 category currently in service around the world.

The P2012 will come equipped with the new Garmin G1000 Nxi and will be powered by two 375hp Lycoming piston engines.

The mini airliner will first see service as a passenger aeroplane with US-based Cape Air in early 2019, but has been designed to be versatile and flexible, offering many multi-role opportunities including VIP, cargo shipping, parachuting and medevac services.

EASA and FAA certification is planned for late 2018 with deliveries commencing in 2019.

Since its maiden flight, the prototype has accumulated more than 100 flight test hours. The initial flight test results have enabled Tecnam

to improve the Maximum Take Off Weight to 7,937lbs.

At the unveiling in Friedrichshafen, Tecnam's CEO, Paolo Pascale said: "We are delighted to now be able to accept deposits for delivery positions. This next-generation aeroplane will deliver to operators not only profits, but reliability, efficiency and of course passenger comfort. The Tecnam design team have answered all these customer needs with the P2012 Traveller. We feel we are contributing to real innovation in aviation!"

# STEMME AND REMOS ANNOUNCE MERGER

by Lucy Field

Two world-class German aircraft manufacturers — Remos, producers of Light Sport Aircraft and Stemme motor-glider manufacturers — have announced that they will merge.

The companies have had a working relationship since 2014 when Remos began manufacturing structural components for Stemme at its Pasewalk facility.

The merger has been approved by each company's boards and

both brands will contiune to market their existing products, but the new company will operate as Stemme AG.

Stemme is best known for its motor-gliders, the S10 and S12, as well as the ECARYS ES15 motor-glider as a surveillance aircraft for government and military use, whilst Remos is known for its GX light sport aircraft.

"We look forward to rapidly bringing together the outstanding employees and cultures of both companies, as well as the complementary capabilities of our organisations, to position Stemme AG and Remos AG at the forefront of a new generation of solutions for the aviation industry," said Stemme CEO Paul Masschelein.

"Both companies share a similar business philosophy, similar customer focus, and equal quality focus."

Reports state that there are no plans for the companies to combine their manufacturing facilities, but expansion is expected on the Remos Pasewalk site.

### LOOK BACK... THIS MONTH 48 YEARS AGO



### SUPERSONIC AIRLINER

On 5 June 1969 the Russian-built Tupolev Tu-144 became the first airliner to fly supersonic. The Tu-144 also claimed several other firsts. The aircraft, affectionately known as Concorde-ski, beat its Anglo-French rival by flying two months before Concorde. And after breaking the sound barrier, the Tu-144 also became the first commercial transport to break Mach2. But it didn't all run smoothly for the Tu-144; one crashed at the Paris Air Show in 1973, which delayed development. This delay pushed back its launch into passenger service until November 1977, two years after Concorde. The final nail on the coffin for the Tu-144 came in May 1978 when the newer 'D' version crashed on a test flight during a delivery. The passenger fleet was permanently grounded after only 55 flights. The Tu-144 was used as a cargo plane until 1983, by which time 102 flights had been flown. It was then used by the Soviet Space Program and then by NASA for research into supersonic flight.

# ROTAX'S MOST POWERFUL ENGINE TO BE READY IN 2017

by **Robert Care** 

The newest and even more powerful Rotax engine, the 915iS is on course to be fully EASA certified by the middle of this year, with deliveries beginning in the third quarter of 2017.

The 135hp engine has already completed 250 flight hours, 10,000 hours on test benches and is currently undergoing a final calibration in 'real flight' mode.

Rotax sent prototypes of the 915iS to OEMs back in August 2016 so they could be installed into their aircraft ready for certification. Rotax state that there are currently more than 40 Design-Ins in progress,

Rotax has said that the 915iS engine will provide the best power-to-weight ratio in its class and a full take off power up to at least 15,000ft (4,750m)



The target market for the Rotax 915iS aircraft engine are the high performance 2-seater, gyrocopter and amphibious market as well as the 4-seater and twin aircraft market.

Whilst At Aero Friedrichshafen, Rotax picked up an award for it's new engine. It was awarded the Innovation Award 'Powertrain of the Future' "We are pleased about the great response of aerokurier's readership, who voted for our 915iS aircraft engine as "Powertrain of the Future'," said Thomas Uhr, General Manager BRP-Rotax. "This commitment demonstrates that we have the best product for our customers and we assure them that we will not stop here."

### AOPA NEWS HIGHLIGHTS

### **CONTINENTAL AND FAA**

Continental Motors is working with the FAA to dispel what they see as confusion and unnecessary concern about a mandatory service bulletin (MSB) issued by Continental Motors in early 2017 for a camshaft gear found mostly in older IO-520 and IO-550 engines.

### TV STAR PROMOTES LAA

Pilot and TV presenter Arthur Williams has agreed to become an abassador for the LAA to promote the organisations 'Flying for Fun' message. Williams is known as the host of Channel 4's Paralympic coverage and flies a J-3 Cub. He says he "can't wait to fly the flag for the LAA".

### **DELTA DEFENDS PILOT**

A Delta airlines pilot is back at work after accosting two fighting passengers and hitting one of them. A Delta statement said: "The pilot has returned to work as our investigation found that his actions deescalated an altercation between passengers during deplaning.".

### TWO DIE IN ICON TEST

As we went to press we heard the sad news that Icon's chief test pilot Jon Karkow crashed in California and died along with Icon employee, Cagri Server. Few details have been released at this point, but CEO KirK Hawkins said: "We have no details on the cause of the accident right now."

# **CERTIFICATION** FOR PIPER M600

Piper's CEO announces its new aircraft and takes a swing at EASA on its lengthy certification process

by David Rawlings

At the recent AERO show in Friedrichshafen, Piper's CEO Simon Caldecott took a metaphorical swing at EASA saying that its certification process is "not good enough," due to the certification process for the manufacturer's latest aircraft, the M600, taking nine months and counting. He mentioned that other countries including Canada and Australia take just 30 to 60 days.

Piper's new single-engine turboprop, was certified in the US by the FAA in 2016 and before the end of the year Piper had delivered more than 20 aircraft.

The first of the new M600s arrived in Europe for Aero Friedrichshafen. It was flown over from the US and thanks to its wing and fuel capacity,

additional tanks did not have to be added for the journey. The maximum range of the M600 is 1484nm with a maxium crusing speed of 274ktas. The M600 has the Garmin G3000 upfront, with autopilot and Synthetic Vision, as you would expect from a machine of this type.

The M600 is on a demo tour of Europe for the next three months before heading over to Africa and Asia.

Piper believes there is a growing market for their new turboprop. Even though the price tag is \$2.89m, they feel it is a lot cheaper than the other options in the market. And with EASA's approval for commercial operations in IMC for single-engine turboprops, the M600 will be looking like a very attractive option for some.

There are also several modifications already

avaliable for the new M600, including a fiveblade propeller option from Hartzell (over the standard four-blade choice) that has already been approved by the FAA in the US. This is a composite, swept tip propeller that has been specifically designed for the M600, offering less vibration and increased performance.

Even bigger spenders, who want the biz jet feel can upgrade with the personiasation package Piper are offering for \$22,500. Owners can travel to Piper's HQ in Vero Beach, to work with designers to choose colours and materials to suit them. Owners can choose custom threshold and cockpit plates, leather wrapped yokes, seat pattern styles and their own logo to have on the aircraft.



The M600 is on tour across Europe and then heads to Africa

# ROBIN LOOKS TO FLIGHT SCHOOLS WITH NEW DR401 LITE

by Lucy Field

French manufacturer Robin Aircraft has announced two new versions of aircraft based on its extremely popular DR401.

The two new versions will be the DR401 Lite, aimed at flight schools, and a powerful DR401 2001.

The Lite will be powered by a 118hp Lycoming O-235 engine with a DUC carbon fibre, ground adjustable propeller, and comes with a starting price of just €142,596 + VAT.

The company also said it has plans to release a version fitted with the Rotax 915iS (see P19 news).



The new DR401 Lite had many admirers at Aero

The aircraft is an EASA certified two-seater, and the back seats, that are normally associated with a Robin DR401 will be removed, to save weight, money and space. However a third seat can be added into the aircraft. The Lite will also have a Maximum Take Off Weight of 800kg.

The design of the fuselage is identical to other DR401 models, but less material is used in the construction, thus lowering the mass and the price. The Lite will benefit from analogue instruments but there will be room to install an an iPad.

A statement for Robin says: "The primary objective was to make an aircraft that was lighter and more obtainable. Because some flying clubs have difficulty affording new

aircraft, our strategy was to allow them to operate a trainer with the Robin qualities: certified, robust and dependable.

"The DR401 was thus relieved of equipment that was unnecessary for solo circuits and local flights."

Robin wasn't quite finished with its announcements at Aero Friedrichshafen. They also had another aircraft for the other end of the buying spectrum – the new DR401 200I. This version will be powered by the Lycoming IO-360 200hp engine and will benefit from a cruising speed of 145kts.

The take-off run of the more powerful version is 320m to clear 15m. The DR401 2001 will come with an expected price tag of €244,802 + VAT. ■

# CAA HAS ALREADY RECEIVED 2,000 CLAIMS FOR 8.33KHZ FUNDS

by David Rawlings

The UK's CAA has received more than 2,000 applications for funding to install 8.33kHz radios in under three months since it launched its online application process.

The CAA has said that it will begin to review the applications and once they have assessed all applications, payments to successful claims will be made at the end of summer.

The new law comes into effect at the start of 2018 and everyone flying will need to make sure they comply and have a 8.33kHz radio installed.

The CAA has now opened a second round of applications that will run until 30 September 2017. The same eligibility criteria will be used as the previous round of applications and claims will be formally assessed after the stated closing date.

The claims must be supported by receipts to demonstrate that there has beenpayment for equipment.

The CAA will rebate 20% of the hardware costs of an upgrade until the funds from EASA run dry. There is a PDF form on the CAA's website that needs to be completed to claim the rebate, and this form will

also require the CAA Radio Licence to be updated.

Full information on the application porcess can be found in the last issue of AOPA UK magazine (April 2017). Note: For those

under LAA oversight, the approach is similar but uses the LAA modification procedure. See LAA Technical Leaflet TL 3.03 (plus form MOD 7) on the LAA website.



Everyone seems to be going radio ga-ga



# A NEW FLIGHT DESIGN

German company, Flight Design surprised everyone at Friedrichshafen by announcing, and displaying, a new aircraft - the KLA100

by Lucy Field

There was a surprise on the Flight Design stand at the recent show in Friedrichshafen: a new aircraft. The KLA-100 is a brand new, low-wing twoseat aircraft and is a joint venture between Vessel and Flight Design. Flight Design stated that the KLA-100's development programme has been going quietly for two years, and that the aircraft took flight for the first time just before the show in April.

"The first flight was performed in Sumperk, Czech Republic in late March with test pilot Richard Ponizil at the controls. Since that time the plane has made seven more flights and met all expectations," said Flight Design COO, Daniel Gunther.

The KLA-100 is to be certified as a Light Sport Aircraft for sale in countries that accept ASTM Compliant aircraft, as a CS-LSA certified aircraft. This will allow access to virtually every major aviation market in the world.

### WHO IS VESSEL?

Vessel was established in 2004 in South Korea. The company began by manufacturing LCD in-line systems. It then decided to go into the aviation world. As part of a national project it began developing the KLA-100 using the knowledge it had learned during the company's early days. The company plans to be a leader in aviation.

"The programme is a collaboration, between Vessel of South Korea and Flight Design," stated Matthias Betsch, CEO of Flight Design. "Our engineering staff has worked closely with the Vessel Engineers to develop the KLA-100 and they will work together to certify the plane in Europe and South Korea."

Vessel is running a parallel development and flight test programme in South Korea to gather as much experience for certification in Korea. A high-aspect ratio wing platform is used to reduce drag and increase climb. The new proprietary airfoil has an improved coefficient of lift and reduced drag through a greater percentage of laminar flow. The aircraft's

Stall Safe afe drooped leading edge is designed to keep the airflow attached at the tips, promote poststall aileron control and resist spins. The long-span slotted flaps feature another proprietary airfoil developed in South Korea to slow the KLA-100 for low landing speeds and gentle stalls. The KLA-100 will use the Rotax 912iS and feature the Garmin G3X avionics suite combined with a Garmin GTN-650 MFD, Garmin GTX-335 Mode ES ADS-B out transponder and optional Garmin 2 axis autopilot.

To protect the occupants of the KLA-100, the engine mount and carbon fuselage attach points reduce the possibility of engine intrusion into the occupant's safety cell

# THIRD COUNTRY LICENCE ISSUES

by Martin Robinson

The issue of third country licences suddenly raised its head in April as the DfT/CAA sent a notice that required pilots with third country licenses to have completed some forms that provided the ability for such pilots to continue to operate after 8 April. However, the timing of this action seemed to catch everyone out.

Previously the CAA said it was expecting some changes to happen in April 2018 which would initiate a 12 month period in which third country pilots would need to change their licence/ratings conversions to European ones. In a note from the DfT it is explained that the timing of the original derogation and the date in which the EU/US bilateral agreement comes into force would have left a gap in the legal sense, because the Commission was not able to amend Regulation 1178/2011

to extend the implementation derogation before the end of the current deadline. The UK also was not able to extend the current derogation. The CAA and DfT have worked to make sure third country pilots could keep flying until such time the EU/US licensing annex to the original BASA comes into force next year.

So, in theory nothing has really changed other than the legal process that enables pilots to keep flying – so by April 2019 all third country licence holders will need to comply with the new requirements.

The issue with US class 3 medicals is simply that the standard used in the United States for Class 3 medicals is below that of ICAO- third country operations by definition are therefore subject to ICAO minimum standards unless the individual state allows/accepts the US class 3 for use only within that state.

### VTOL FLYING CAR HAS FLOWN

by David Rawlings

Lilium Aviation says it has flown a prototype of its all-electric VTOL tilt-engine aircraft. A video provided by the company of the first flight shows the aircraft autonomously taking off vertically, turning tightly and transitioning to flight before landing vertically.

There has been no independent confirmation that the video is real, but if it proves to be the case then it

appears that breakthroughs have been made. "We have solved some of the toughest engineering challenges in aviation to get to this point," read a Lilium statement.

The aircraft is powered by 36 electric-powered ducted fans, 24 on rotating "flaps" on the wings and six on each of the canards ahead of the cabin. According to some reports, the motors have a total of 430hp and the main technological breakthrough is in the batteries.

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Email: info@hullaeroclub.co.uk

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Andrews Field Stebbing DUNMOW CM6 3TH Tel: 01371 856744 Fax: 01371 856500 Email: info@andrewsfield.com

Web: www.andrewsfield.com Type: Cessna 152 No: 5 Type: Cessna 172 No: 1 Type: PA28R Arrow No: 1

Type: PA28 Warrior No: 1

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No: 1

### STAPLEFORD FLIGHT CENTRE

STAPLEFORD AIRFIELD Stapleford Tawney ROMFORD RM4 1SI Tel: 01708 688380 Fax: 01708 688421 Email: reception@flysfc.com Web: www.flysfc.com Type: Cessna152 No: 15 Type: Cessna 172 No: 1 Type: Cessna 182 No: 1 Type: PA28 No: 8 Type: PA28R No: 3

Type: PA34 No: 2

Type: Piper Super Cub No: 1 Type: DA42 SIM No: 3 Type: DA40D No: 1 Type: DA42D No: 2

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Type: PA28R 200 No: 1 Type: Robin R2112 No: 1 Type: Robin DR400 No: 2

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HANGAR SE49 Gloucestershire Airport Staverton CHELTENHAM GL51 6SR Tel: 01452 712388 Email: info@ stavertonflyingschool.co.uk Web: www.stavertonflying school.co.uk Type: C152 Utility No: 1

Type: C152 Aerobatic No: 1 Type: C172 No: 2 Type: Boeing E75 No: 1

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Type: Cessna 150 No: 1 Type: Cessna 152 No: 3

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Web: www.westair.uk.com Type: Cessna 172S No: 1 Type: Cessna F172P No: 1 Type: Cessna FA152 No: 1 Type: Cessna F150H No: 1 Type: Piper PA28 Warrior II

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Type: Cessna 152 No: 6

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Type: Robin 200 No: 2

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WORDS David Rawlings IMAGES Textron Aviation

# Business or Pleasure?

When Cessna and Textron finally got the TTx off the ground they felt it had a unique place in the market and would fill a gap in GA... but does it?





when it came to getting the TTx to market it would be an understatement to say that it took a little longer than Cessna expected

The aircraft's roots can be traced all the way back to the mid-1990s and NASA, having gone through a number of incarnations before it became the aircraft we see today (read on for a fuller history). Nonetheless, Cessna feels as though it has been well worth enduring all the bumps in the road to get the TTx certified and finally into production.

#### **BACK TO THE BEGINNING**

Cessna and Textron put the TTx on a pedestal as one of the best aircraft they offer. And it's a 'local-boy-donegood' story that began in the 1990s. During this time, NASA were in the middle

"The aircraft's roots can be traced all the way back to the mid-1990s and NASA"

of their AGATE (Advanced General Aviation Transport Experiments) project. But it wasn't an easy period for General Aviation. "There were lots of expensive lawsuits in GA at the time," says Kevin Schmitz, Business Leader of Piston Aircraft at Textron when he spoke to AOPA UK. "So you saw a lot of manufacturers ignoring piston aircraft and going towards turboprops or small jets. NASA's plan was to make the market strong again," he adds.

One of NASA's aims was to make piston aircraft easier to fly. They wanted to make them less likely to spin and have docile stall characteristics - in essence, to develop aircraft handling that was similar to driving a

NASA looked at using flatscreen technology, instead of dated steam gauges, and also looked at using composite materials - could

they make the aircraft a better shape with a smoother aerodynamic surface? They also investigated what could be added to the leading edge of the wing to reduce the chance of spin.

"One of their test articles was a Lancair aeroplane," explains Schmitz. "Lancair learned a lot from NASA – it gave them years' worth of data. NASA even completed tests on the strength of the roll cage and Lancair was able to learn and apply all of that information to it's next generation of aircraft."

Lancair subsequently began work on on the Columbia 300, building specific aviation composites in a bid to make a success of the new aircraft. In 1998 Lancair certified the Columbia 300, followed up in 2003 with certification of the Columbia 400. This version had the flatscreen displays and the turbo-charged engine. It was a lot like how



A cruise speed of 235ktas and a range of 1200nm means the TTx gets you a long way, quickly!





the TTx looks today.

However the Columbia struggled in the market. It was meant to be a homebuild aircraft and Lancair struggled to massproduce it. "They could not get all their components consistent enough to make it efficient to mass-produce," says Schmitz. "They didn't have the tooling required to get consistent parts, and they didn't necessarily have aircraft parts on all the areas where they needed it," he explains. Schmitz believes that when Lancair eventually

"It's a wonderful aircraft and it was a great opportunity to add it to our piston fleet" went bankrupt, it was a great opportunity for Cessna to add a wonderful aircraft and piece of technology to their established piston fleet.

So in 2007 Cessna bought the Columbia, renamed it the Corvallis and started production.

It didn't take long for Cessna to come to the same conclusion as Lancair. They needed to have a timeout and try to work out the most efficient way to produce the TTx so it would make sense and be profitable for the Kansas-based company.

Cessna paused production so it could work on certification, move the factory location, begin working on the tooling aspect and add in the powerful Garmin G2000 avionics suite. Cessna also looked at improving the supply chain, and both the size and buying power of Textron meant that it had the ability to leverage improvements.

"We've always been a very engineering and manufacturing-strong company and I feel our tooling group, engineering





Cessna's TTx customers tend to be businesses that travel far and wide



Looks fast when standing still - the TTx has impressive ramp presence

group and everyone invloved saw an opportunity to manufacture this aeroplane a lot more efficiently than how we were doing. We really couldn't pass that up, it was a no-brainer investment. If we took the break, we knew that the TTx would easily pay for itself," says Schmitz.

Therefore in 2012 Textron announced the newest incarnation, the TTx. It was finally certified in 2013, with an additional certification in the second half of 2014 for flying into known icing.

Last year Textron finally

"If we took the break we knew that the TTx would pay for itself" received EASA certification and the TTx has been wellreceived in Europe ever since.

#### WHO'S IT FOR?

The TTx is the fastest fixed-gear piston aeroplane in production on the market. As a big comfortable four-seater with a powerful TSIO-550-C Continental Motors engine, its performance is second-to-none. But with a price tag in the region of \$700,000, it certainly has a niche in the market, which could ultimately see many pilots and potential owners look elsewhere

The TTx is automatically compared to the Cirrus range of aircraft but Textron feel (as they would) that their aircraft is superior. "It has its own unique placement in the market," says Schmitz. "We find small companies buy this aeroplane and use it to fly to different locations across the East Coast of the United States.

They love it because of how easy it is to fly and how fast it is, they say they get a lot of enjoyment out of flying the TTx. We also have a lot of retired people that have been



successful in their work life, and are ready to buy a toy. So they purchase the TTx as their flying sports car."

Speed is obviously one of the biggest strengths of the TTx with a cruise speed of 235ktas, but Cessna state that its performance and handling get overlooked. "We have the true sidestick where it ties directly into the controls. It's not a side yoke. The sidestick puts you right in touch with the flight controls," explains Schmitz. "It's also a very aerodynamic aircraft, which makes it quieter, faster to the point where we even need speed brakes to get it slowed down sometimes."

With the roots in NASA, who are used to having pilots sit in place for a very long time, the cockpit has been ergonomically designed, with a fit and finish similar to a luxury car. "It's also beautiful," says Schmitz. "And for lack of a better term, it's a sexy aeroplane – and people love that about it."

#### **FLYING FUN**

It's all well and good being a "sexy" looking aircraft but when you're sitting behind the controls for three to four hours, you want to be enjoying it. Pilots have said that the TTx is a dream to fly and that it's a real pilots aircraft.

The sidestick and design and feel make it feel like you're flying a piston fighter aircraft, thanks its responsiveness and incredibly stable handling.

Will Klein, Instructor Pilot at Textron says that one of his favourite things to do is: "Get it into really slow flight, just hang it on the propeller and to show people you still have full aileron control left and right and it's still really responsive and authoritative. Honestly it's so well designed it's the first aircraft I've ever flown that for a spin recovery

"Speed is obviously one of the biggest strengths of the TTx with a curise speed of 235ktas" procedure, is to do opposite alleron against the spin, which if you do in any other aircraft I've flown is a complete nono because that would've aggravated the spin. And we demonstrate that as a recovery procedure."

Despite all the technology upfront, the TTx asks to be hand-flown. "It has a really wonderful autopilot built in, the GFC700, but I love to hand fly the TTx. I'll cruise by hand for hours because it is so comfortable – I don't want to use the autopilot and I'm lucky to be able to do it," adds Klein.

The aircraft's sidestrick control means that even pilots with years of yoke experience can be apprehensive at first. "If I take someone on a demo flight that has only ever flown yokes before, then I brief them. Then as we take off I explain that for the first two or three minutes they're going

to have a strange feeling because they have to retrain their hand. But it happens so naturally it's almost instantaneous, and as we're passing 500ft on the climb out I can see them relax, they ease back into their seat and they're smiling. I have never had a demo or training where people didn't like the stick after 10 minutes," says Klein. "It's the same with the G2000, we have people come in, not sure if they can figure it all out. But it's so intuitive and power that in 10 minutes, they're tuning all the frequencies and altering the flight plan."

The TTx certainly has its place in the piston market, and there will be a lot of people looking at the Diamond DA40 and the Cirrus range. But Cessna firmly believes it has has found a market leader, and beater in the TTx.

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DAs a relative newcomer, does headset manufacturer Factem have what it takes to rival the market leaders?

Product EF7-IA Maker Factem

When French manufacturer Factem was researching into how it was going to build its new headset, it surveyed the flying public to see what they wanted in a headset that would be could rival the A2O. The feedback received informed the design and production of the EF7-1A (and the cheaper, non-ANR EF7 Initial).

The company states that its headset has been designed for use in civil or military aviation environments, is exceptionally robust, has a unique design and was specifically designed with the hybrid ANR system developed by Factem to maximise performance in high-noise locations.

The headsets are larger than some other ANR products on the market and they do look less stylish and more toy-like when compared to the likes of the Zulu and A2O. The headset controls are integrated into the EF7-IA earcup meaning there is no control box to get in the way whilst flying. The controls, which include a multifunction wheel, USB charging socket and LED indicator are on the left cup.

The batteries to power the ANR are non-removable in the makeup of the headset, so if they go dead, that's it, you're out of ANR power!

The USB cable needs to be plugged into the headset to charge, and Factem state that a fully charged headset with last for up to 28 hours. The company also says that the passive attenuation will reduce noise by 25dB.

Other features of the EF7-1A include: Bluetooth, adjustable Talk-Through, auto shut-off, rotating earcups for flat storage and memory foam earpads.

Although Factem has a lot to live up to if it wants to sit alongside the forerunners, Bose and Zulu, thanks to its low cost, the EF7-1A is still an attractive alternative option.

The biggest hindrancethat could put pilots off is the fact that you can't replace the batteries during flight. Some pilots might find losing ANR halfway through a flight unacceptable.

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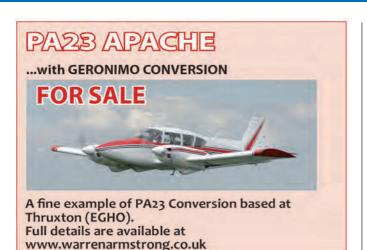
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One of the last 421s built, original Cessna interior, cabin dividers, 2 stowable writing tables, flushing toilet, 7 belted seats, bare metal repaint 2004, excellent condition, always hangared.

#### CONTACT STEVE BORROWDALE

steve.borrowdale@multiflight.com or telephone 0113 238 7100



At Cotswold Airport, this superbly agile 150hp Pup has new Garmin Avionics & long-range tanks, making it the ideal aerobatic sports-cruiser. Shares available for qualified or student pilots, whom we can train, are £2,000 plus £98phr wet.

For full specification of this British Classic, contact ROGER HAYES
01285 851311 - 07860 257333 - roger@skysport-uk.com

#### LIBERTY XL2

#### Shares Available for Biggin Hill based touring aircraft

20% shares in this very comfortable 2-seat aeroplane are currently available at £10,000. (Reasonable offers for outright purchase will also be considered.) N518XL is hangared, and is equipped with complete IFR fit (Garmin 530, 2nd nav/comm, Mode S transponder, DME & 2nd Altimeter). The Liberty XL2 offers FADEC engine control and a 115 kias cruise at 6.0 US galls/hr. Current costs: £160/month and £80/ hr wet. Further details and demo flight available on request. FAA licence required for flights outside UK. (With a JAA/ EASA licence, acquiring an FAA licence is possible without a skill test or exams.) Trial period possible. Ideal candidate will have 200+ hrs. Contact Bill Roberts: 0207 564 5461, williameroberts2@aol.co.uk.





#### 1/3 SHARE AVAILABLE IN A VAT PAID CIRRUS SR22G2 2004. LOADED WITH OPTIONS! £55,000

Based at Fairoaks Airfield. Dual Garmin GTN 650's (touchscreen), MLX770 satellite datalink, Fully IFR equipped, Fresh Annual (Jan 2016). Well established group including engine fund

Aircraft Stats: Serial Number 0977, 1675 TTSN. Brand new engine and propeller in March 2013. 245 hours on new engine/prop at annual Jan '16 Extras: DME & NDB, TKS ice protection - Leading Edge Protectant, H.I.D. landing light, Semi-portable oxygen system for 4, 3\* Bose Aviation-X headsets, 4\*lifejackets, Liferaft. If you'd like to find out more, please contact Ben: 07789625099 benlakin@lahitere.com or benlakin2@lahitere.com.







Semi aerobatic 2 seat tourer based at Biggin Hill. 160hp engine approx 700 hrs Prop 375 hrs. Constant speed prop & retractable nose wheel. Good avionics with Mode S & new Trig 8.33 radio. Always hangared. Good availability.

£100 PM £125 PH WET. OFFERED AT £2500.00 Contact Gary 07785340368 or papaechogroup@gmail.com



Well-maintained 1989-built Warrior II. Excellent availability. Very friendly group. Zero-hour engine October 2012. Garmin GNS430 updated monthly. Garmin GTX330 Mode S transponder. Second Comm/Nav (Garmin GNC225A 8.33 comms on order). Fully IFR equipped. 1/7th share £5000 ONO. £130 monthly, £95 ph wet.

> JEFF 07989 322870, jat\_100@hotmail.com NICK 07760 220830, nickclaxton@btinternet.com

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