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Chairman's Message Thought leaders

By George Done



Innovation is the act of introducing a new idea or product, according to the dictionary. Success depends on many factors, but accurate assessment of market need and fitness for purpose must figure high on the list. To address both factors satisfactorily requires expertise in, and sound knowledge of, the market. In AOPA's case, these attributes derive from one or more of its working groups or specialist committees.

Leaving aside physical products or hardware, the more intangible subjects of pilot development and training have long been of special interest to AOPA. This goes back to before the formation in 1966 of the British Light Aviation Centre Ltd, one of its constituent bodies being the Association of British Aero Clubs and Centres, strongly involved in flight training. The BLAC, which now trades as AOPA, continued the activity through a Flying Training Committee, now known as the AOPA Instructor Committee. This committee was, and still is, a driving force in producing initiatives that benefit piloting skills development.

These have included the IMC Rating (now IR(R)), the embryonic NPPL, the Aerobatics Certificate and the Ground Instructor Certificate. It is generally recognised that the NPPL provided the basis for the EASA LAPL, and the Aerobatics Certificate has morphed into the EASA Aerobatics Rating.

The AOPA Wings Award Scheme came into existence in 2003 after some lateral thinking on how to create better and safer pilots - particularly through the efforts of two instructor members of the Committee, namely Howell Williams, sadly no longer with us, and Robert Gore.

It has since been promoted through the magazine and on the AOPA website and to date about

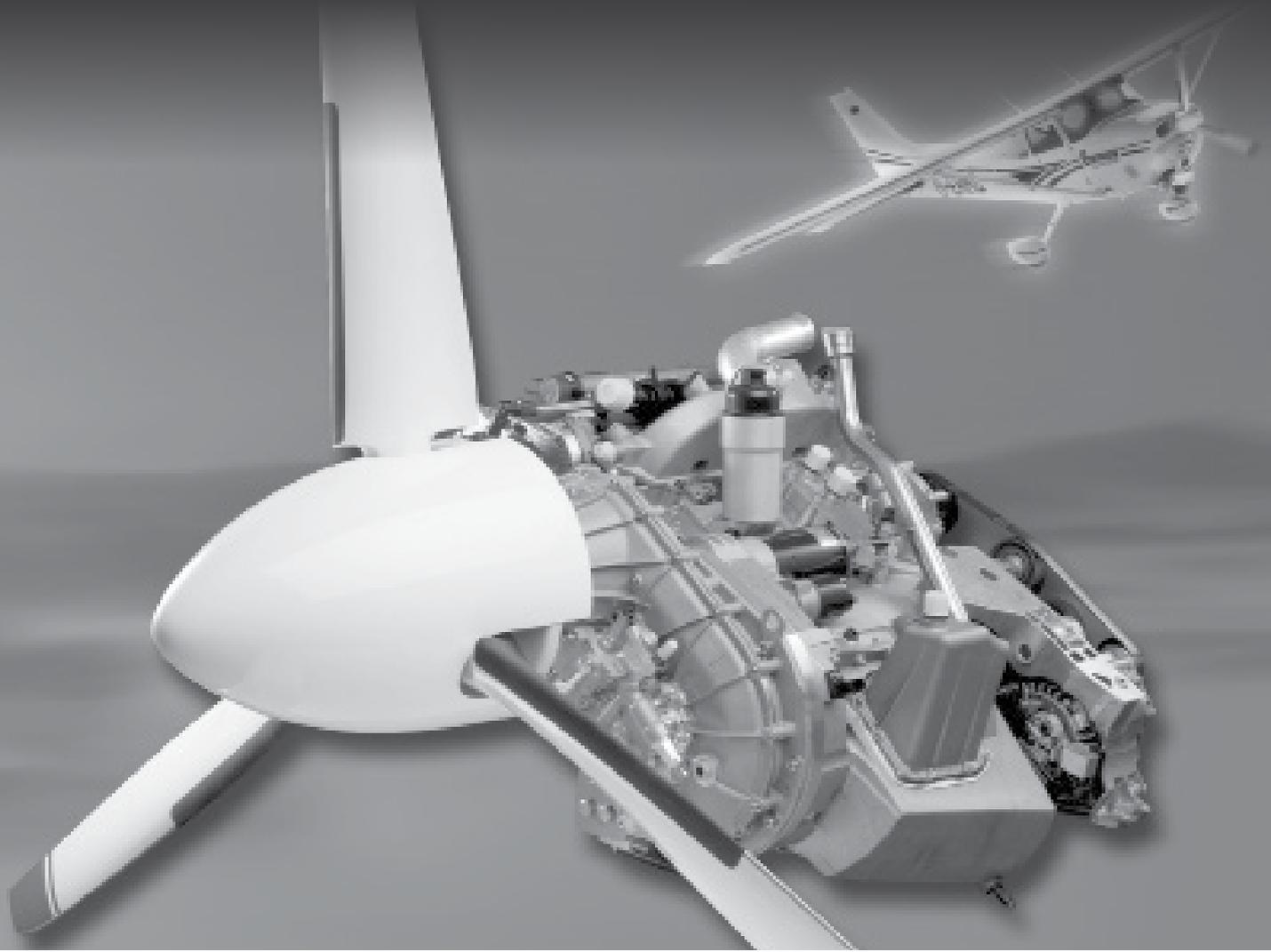
three hundred AOPA members have been awarded Silver, Gold and Platinum Wings.

The AOPA Wings Award Scheme provides a structured approach to answer the question of what the next steps should be once a pilot has finally gained his or her licence. It includes a range of targets and achievements that increase a pilot's commitment to general aviation - this can only be a good thing.

The "better and safer" aspect, it was felt, would be of interest to the CAA, but despite persistent lobbying by AOPA chief executive Martin Robinson, all approaches to promote the scheme to newly qualified PPLs and NPPLs fell on stony ground. The situation changed, however, when in 2014 the CAA set up the GA Unit under the leadership of Tony Rapson. A more receptive atmosphere followed his appointment, and further discussions led to a constructive outcome.

This is the "Pilot Recognition for Operational Up-skilling and Development" (PROUD) scheme, established by the CAA in July. A framework for approving pilot development schemes may be found on the CAA website. This has aims and objectives consistent with those of the AOPA Wings Award Scheme, which, following some necessary minor tweaks, became the first to be registered in the PROUD Scheme - an achievement in which we take the greatest pride. T

the establishment of the PROUD framework is itself innovative - already schemes from other organisations fitting the framework have been endorsed. The CAA personnel involved in its establishment are to be congratulated for providing such a positive boost for the future viability of general aviation in the UK.



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Continental Motors

Editorial

By Ian Sheppard

Working at an airfield and occasionally flying to others, you are acutely aware that you're in some kind of bubble. Even those coming to the cafe and walking past aeroplanes to the loos know little of the world that this all represents.

It's sometimes hard to believe that GA activity has suffered such a downturn (as proved by the York Report), but then it is always the same group of (mainly 40+) pilots/ aircraft owners who turn up to go flying. Flight schools seem to be busy and there are lots of them, but making money given all the costs involved is clearly difficult.

The bottom line has to be to get more people to get PPLs and those that have PPLs to keep them current and fly more, to try sharing etc. The PROUD scheme from the CAA should move GA in this direction, with AOPA's Wings Scheme being taken to a new level. So why not sign up! See page 14 for more information.



Martin Robinson accepts the 'PROUD' approval for the AOPA Wings scheme from the head of the UK CAA's GA Unit, Tony Rapson.

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A brief profile of Andrewsfield CFI Carol Cooper.

September saw many events celebrating the 75th anniversary of the Battle of Britain, including this dinner at RAF Northolt. Northolt is the only Battle of Britain RAF airfield that is still an RAF station, although it does now see mainly commercial/VIP traffic and has a business aviation centre (Northolt Jet Centre). Other events saw mass take-offs from Biggin Hill and Goodwood.



Make a note! GASCo Safety Evenings

Thursday 8th October 2015, 19:30

Bristol and Wessex Flying Club
Silver Zone
Bristol Airport, BS48 3DP
Contact: Gary Thomas
Tel: 01275 475429 or 07917 408312
E-mail: gary@bristolandwessex.co.uk

Wednesday 14th October 2015, 19:30

Swansea Cambrian Flying Club
Swansea Airport
Fairwood Common, Swansea SA2 7JU
Contact: Derek Clyde
Tel: 01792 205688
E-mail: info@cambrianflyingclub.co.uk

Wednesday 21st October 2015, 19:30

Darley Moor Airfield
Ashbourne
Derbyshire DE6 2ET
Chris Dawes, Tel: 01335 344308
E-mail: office@airways-airports.com

Wednesday 11th November 2015, 19:30

Cornwall Aviation Heritage Centre
HAS3, Aerohub 2
Newquay Cornwall Airport
St Mawgan, Newquay
Cornwall TR8 4GP
Flyngy Pilot Training / Zara Dinnacombe
Tel: 01637 861744
E-mail: fly@flyngy.co.uk

Thursday 12th November 2015, 17:30

Central London:
AOPA UK in partnership with Hayward Aviation Ltd
The St Botolph Building
138 Houndsditch
London EC3A 7AW
Contact: Debbie Tucker.
All guests must register for a ticket in advance, for security.
E-mail: dtucker@haywards.net

Thursday 19th November 2015, 19:30

Cotswold Airport (Kemble)
AV8 Café
Cotswold Airport
Cirencester, Glos GL7 6BA
The café is situated next to the control tower. For people driving in they need to use the airport entrance off the A433 Cirencester to Tetbury Road and not the old RAF main gate.
Contact: Suzie Bennett (AV8 Manager) or Nick Howard (Operations Director/Airport Manager).
Tel: 01285 771188 or 07826 141915
E-mail: sue@cotswoldairport.com

Sunday 22nd November 2015, 19:30

Eshott Airfield/Bockenfield Aerodrome
Felton
Northumberland
NE65 9QJ
Contact: Callum Jennings
Tel: 07592 942081
E-mail: callum@purpleaviation.co.uk

Thursday 26th November 2015, 19:30

Warton Aerodrome
BAE Systems (Operations) Ltd
Preston, Lancs PR4 1AX
Contact: Sean Donno
Tel: 07539 278428
E-mail: sean.donno@baeflyingclub.co.uk

Thursday 3rd December 2015, 19:30

Runway 26 Café/Bar
City Airport (Barton) - see picture, below.
Liverpool Road
Eccles
Manchester M30 7SA
Contact: Nick Duriez
Tel: 0161 789 1362
E-mail: info@cityairportltd.com
Important Information: Due to limited capacity, places are limited on a first come pre-booked basis. To book a space, please visit: cityairportandheliport.com/safetyevening

A profile of City Airport Manchester (Barton Aerodrome) will now appear in December's issue of Aircraft Owner & Pilot. A GASCo Safety Evening will be held there on 3rd December.





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³Contact your dealer for a full list of EASA-qualifying aircraft on Approved Model List (AML).

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Chief Executive's Diary

Let's keep the EASA Advisory Board independent



By Martin Robinson, CEO, AOPA UK

28th July

The CAA Finance Group met at Aviation House, Gatwick to continue the discussion around GA's fees and charges. The bottom line is that the GA department under recovers its cost from the GA community. It is not possible to discuss the detail as there is still work to be done. However, we will keep members informed as and when we can release the results.

29th July

I met with Clare Muir from the CAA to discuss how best to continue the development of electronic conspicuity – much more work is required.

30th July

I met with Philip Church of Helios to discuss the possibility of AOPA putting a proposal together to do more work with some GA aerodromes in the development of LPV approaches – up to 60% funding may be available.

4th August

I had a discussion with a car rental company with respect to setting up a new Benefit for Members – more to follow.

5th August

I took part in an EAB (EASA Advisory Body) conference call to discuss in detail a proposal from EASA to merge two representative bodies, the Safety Standards Consultative Committee (SSCC) – an EASA committee whose primary task is to advise the director of the Agency, Patrick Ky – and the EASA Advisory Body (EAB), which was created by Regulation to give advice to the EASA Management Board on the Work Programme of EASA and on the finances – 75% of which now comes from users.

It is my view, which is shared with other Associations, that the EAB must retain its independence. I have written to Mr Pekka Henttu, the Finnish chairman of the Management Board, expressing my concerns.

The merged Body would have its chairman picked by EASA and the representatives taking part would be invited. The paper which was received by the EAB was in effect a *fait accompli*.

The Agency is, in effect, trying to manipulate the system under the cloak of improving efficiency – so much for democracy in Europe.

“[EASA] is, in effect, trying to manipulate the system under the cloak of improving efficiency – so much for democracy in Europe.”

IAOPA/AOPA UK does not accept this proposal. If it was not for the intervention of the Management Board it is unlikely that the GA 'road map' would ever have been developed – this came to fruition because I worked with the Chairman of the EAB (at that time, Vincent de Vroey) to raise our concerns with the Management Board over the direction EASA was going in with its rule making programme for GA. So, for

me, an independent Body that can work with the Management Board is essential.

11th August

On this day the GA Strategic Group met to continue its discussions with regard to achieving a sustainable future for UK GA. Two issues of importance for me are the mandatory handling issue – the CAA has agreed to write to the AOA on the matter asking them to make airports aware of the self-handling rules so, some movement, and may be in the right direction.

The second issue relates to AVGAS replacement – as this greener, cleaner fuel becomes available I have asked for the fuel to be zero rated for tax purposes for at least 5 years – mainly to encourage the take up of this new fund which I understand Shell is very close to going into production.

As August is also a holiday month I also took a spot of leave. So back to work on 25th August and played catch-up with a ton of emails.

The Conspicuity Working Group meeting scheduled for 26th was cancelled due to the lack of progress. I have to admit that I am concerned that progress on this subject is somewhat slow.

2nd September

I went to Farnborough for a meeting re LPV approaches with Helios and agreed in principle that AOPA would try and put a bid together. The closing date was 30th September.

4th September

I travelled up to Sywell for a number of small meetings during the LAA Rally.

10th September

I attended the International Flight Training event in Shenzhen, China along

with three companies that came in under the AOPA umbrella – Jeppesen Euramec (a DA42 Simulator provider) and Stapleford Flight Centre. Overall the experience was, for these businesses, better than they expected.

17th September

I met with John Murray – who represents AOPA at the Home Office on all matters related to Online GAR and generally the issues about border controls, notices etc. John does an excellent job for the Association and its members.

18th September

I met with Philip Church again to discuss the administration of the GSA project.

21st September

I had discussions with Charles Henry, the Chairman of the GAAC, who has been making progress on the matter of aerodromes and brownfield sites.

22nd September

I was at the AOPA UK headquarters in London for the AGM, and coming up is the IAOPA Regional Meeting in Tarbes, southern France, on 3rd October.



Stapleford Flight Centres signed a letter of intent with with General Aviation Company Ltd China at the Schenzhen Flight Exhibition recently. The deal will bring EASA quality training to the Chinese market by providing ab-initio training to (frozen)ATPL level for Chinese students. Training will initially be to EASA rules with conversion to CAAC licence later; Stapleford intend to apply for CAAC approval to run CAAC approved courses for Chinese licence issue on completion of training. Stapleford head of training, Colin Dobney said: “This is an important new development for Stapleford....I am very grateful for the tireless effort Martin Robinson [of AOPA] has put in behind the scenes to get this project up and running.



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Editor: Nigel Everett

AOPA: Working for You

Members Working Group



White Waltham Airfield, Saturday 12th September, 2015.



Sebastian Sheppard

The AOPA Members Working Group last met in the summer at Sherburn-in-Elmet. This time it was back to White Waltham which is always bustling with activity. First up for discussion was how to boost membership, with Corporate Membership being seen as a good step to help the effort – with the impending reformation of the Corporate Members Committee. Mick Elborn gave a short report on progress with the Initiatives Steering Group which has also kicked off an exercise to rebrand, including refreshing the design of the AOPA website.

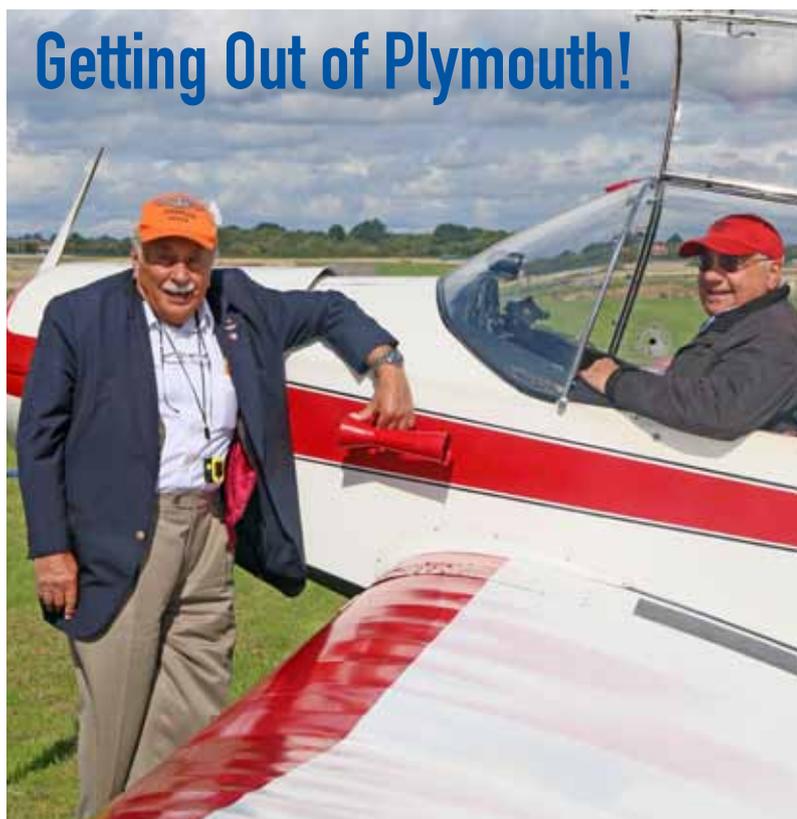
An interesting presentation on Project Eva was then given by two guests from NATS John Corner and Alan Burrell, along with AOPA coordinator for Eva, Bob Darby.

See p15 for an update based on this presentation by Nick Wilcock, who has also been involved in the testing of the low-cost LPATS ADS-B transceiver that Eva is developing for GA.

There followed a discussion about AOPA airfield reps, the updated AOPA Wings Scheme (see page 14), threats to airfields (more in the next issue) and other items, outlined on p13.



After the meeting, MWG chairman Pauline Vahey was whisked away for a flight with Peter Tuplin, who runs The Warplane Flying Company, <http://www.thewarplanefflyingcompany.co.uk/>. You can either book direct or through The West London Aero Club who also operate from White Waltham Airfield. Our thanks again to White Waltham Airfield for once more providing such a nice venue for the MWG meeting.



When a Jodel made an emergency diversion into Plymouth Airport, which is no longer operational, on 9 August 2015, it kicked off one of the most widely-publicised aviation stand-offs in recent memory.

Sutton Harbour Holdings, which owns the land, said it would not give permission for the aircraft to take off, claiming that the pilot committed an act of “trespass”. It had insisted the aircraft could only be removed by road, because of safety. But AOPA vice-president Charles Strasser (pictured here with the pilot) took up the cause and said there was “no good reason” not to let it fly out.

The pilot landed his Jodel G-AXSU at due to deteriorating weather conditions during his flight from Cornwall to Kent. Charles Strasser, founder of the ‘Strasser Scheme’ whereby airports sign up to waive landing and parking fees for such diversions said the pilot made “exactly the right decision”. In the end, the aircraft was allowed to leave and Strasser has been supporting the pilot in recouping some of his costs.

The Strasser scheme has now been adopted by all military and 98% of commercial airfields in the UK (including Plymouth until its closure in 2011).

AGM hears AOPA role critical to GA

AOPA is still thriving despite the drastic slow-down in flying activity in recent years. However retaining and attracting new members continues to be a challenge.



Present at the AOPA AGM on Tuesday 22nd September 2015 were (anti-clockwise from front right, with Board and Executive Committee members marked *): George Done*, AOPA UK chairman; Neil Monks, AOPA UK information office and Instructor Committee member; Martin Robinson, CEO, AOPA UK and regional vice-president, IAOPA Europe; Richard Brooks, AOPA member; Alan Croxford, AOPA member; Pauline Vahey*, chairman, AOPA Members Working Group; Richard Hawkin*, AOPA member from the Channel Islands; Mick Elborn*; John Walker*; Geoffrey Boot*, chairman of AOPA Instructor Committee; Suzie Boot, guest; Charles Henry*; Chris Royle* and Nick Wilcock*, vice chairman AOPA Instructor Committee.

The AOPA AGM was held at 50a Cambridge Street, the Association's headquarters, on Tuesday 22nd September, 2015

George Done, AOPA chairman, welcomed those present and then an accountant from Waller & Byford summarised the main features of the financial statements for the year ending 31st March 2015.

He reported that the association has reserves but needs to attract more members and retain members, which currently number around 3,000.

The main report was for British Light Aviation Centre Limited, which trades as AOPA, while a separate report was given for AOPA UK Ltd, a separate company which operates the AOPA Pilot Store Online, and the Pilot Store at 50a Cambridge Street.

When the accountant had left three AOPA directors that had completed their current terms were voted back in and discussion moved over to various items - these are covered later in this issue.

PPL Ground School now available in Central London!

Starting on 6th October, AOPA will be running a ground school for *ab-initio* pilots. The School will take place at the AOPA offices at 50a Cambridge Street in Victoria and will take place each Tuesday and Thursday evening from 7 to 9pm. The AOPA office is just five minutes walk from Victoria Station.

All nine subjects required for the PPL (aeroplanes), will be taught over a period of approximately 70 hours, with a break over the Christmas and New Year period. The lecturer is Adam Winter, a highly qualified and experienced flying instructor who works for the Flyers Flying School at Elstree.

It is not necessary to attend the full course and candidates can select the individual subjects they wish to study from the published dates.

You do not have to be a member of AOPA to participate. Further details can be obtained from Mandy at the AOPA office on 0207 8345631 or email mandy@aopa.co.uk.





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Licensing Round-Up

Theoretical knowledge requirements for the NPPL

Recently AOPA received an enquiry concerning the requirements for NPPL(SSEA) theoretical knowledge examinations. Specifically, whether EASA's 'sittings' requirements apply to such examinations. After contacting the CAA, we can now confirm that the requirements are as follows:

The NPPL (SSEA) uses the same sets of 9 exam papers as are used for the Part-FCL LAPL(A) or PPL (A). Note that the total number of questions has been reduced to 120.

The pass mark for each paper is 75%.

The exams must all be taken within an 18 month period starting from the end of the month in which the first attempt at the first paper was made.

If an exam hasn't been passed within 4 attempts, all exams must be re-taken.

The exams are valid for 24 months after the date of passing the last exam.

All exams are to be passed before the GST is attempted.

However, although EASA's 'sittings' restrictions don't apply to the NPPL, if you subsequently decide to train instead for the Part-FCL LAPL or PPL, then under current requirements you would need to have met these restrictions (6 sittings, each of 10 days, during which any number of exams may be taken). So be careful if you elect to change horses in midstream!

Avoiding infringements

It seems that the problem of pilots causing airspace infringements is still significant. Although correct use of modern navigation systems should reduce boundary crossing errors, there is also the problem of pilots inadvertently popping up into controlled airspace by flying at incorrect altitudes.

But is it always the pilot's fault? Perhaps not. The UK's archaic 'Regional Pressure Setting' could also be a factor; did you know that it is based on the weather-guessers' lowest forecast pressure for the next hour, but from which they

then subtract 3 millib...3 hectopascals? Whereas the nearest local QNH to wherever it is you're flying uses the *actual* pressure at sea level.

Let's say that you're trying to squeeze underneath someone's airspace and are using the RPS. It could well be that the forecast pressure might drop by a couple of hPa in the next hour and your altimeter might not be in its first flush of youth and have its own 50 ft error.

A cumulative error of around 50+ $((2+3) \times 30) = 200$ ft could therefore mean that instead of being underneath the airspace, you are actually infringing it. So what can be done to solve this problem?

Altimeter setting regions

At the Class G workshop held at CAA Kingsway at the end of March this year, the CAA revealed proposals for fewer, but larger ASRs which would use QNH values provided by a nominated source.

A great deal of science has gone into optimising the size and location of these ASRs, using historical statistical met data. Airspace within these ASRs would have lower limits, if below the transition level, defined by QNH meaning that pilots would at last have an accurate altimeter setting datum on which to fly outside controlled airspace.

As the AOPA delegate at the workshop, I strongly advised that these ASRs and the associated QNH policy should be introduced as soon as possible, rather than waiting for work on the harmonised transition level to be concluded.

The latest information from the CAA, however, is that the next round of consultation will include timelines for ASR and TL change, but that these are still under development.

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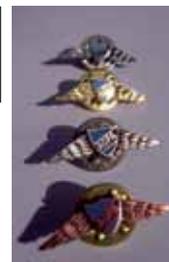
Often known as 'Listening Squawks', these are codes which should be set on your SSR when monitoring the approach or other designated frequency at an associated aerodrome nearby. For example, if flying within 40 nm of Bristol Airport and monitoring 125.650, then set 5077 to let ATC at Bristol know you're keeping an ear on them. Then if you start to get uncomfortably close to the airspace under their control, they can give you a polite nudge *before* you cause any infringement. But try finding a consolidated list of these codes and a chart showing their area of application! If you look in the UK AIP, you will find such pearls of wisdom as:

4572 - This code may be used when flying in the vicinity of the East Midlands Control Zones/Areas and monitoring the East Midlands Approach frequency. Pilots should refer to UK AIP EGNX AD 2.22 – FLIGHT PROCEDURES for further details.

Sorry, but that's not much help really. What is 'in the vicinity' of the CTR / CTA? And why refer pilots to yet another section of the AIP? So I've asked the CAA to publish an official single page chart showing the areas, SSR codes and associated frequencies for all aerodromes with frequency monitoring codes. This is now being considered. Meanwhile, refer to AIP Section ENR 1.6 ATS SURVEILLANCE SERVICES AND PROCEDURES para 2.2.5 'Frequency Monitoring Codes' for the information, then any specific aerodrome information listed against the relevant code. Listing the codes numerically rather than their associated aerodromes alphabetically doesn't make things any easier though. The UK AIP is available at www.nats-uk.ead-it.com. So to reduce the likelihood of becoming an airspace infringer, in addition to planning, flying and navigating accurately, AOPA's advice is:

- Before flight, check the altimeter setting requirements for any controlled airspace near your route.
- If using RPS, don't fly too close to the lower level of controlled airspace on your route. If possible, fly on the QNH of any nearby aerodromes.
- Check the AIP for local frequency monitoring codes and frequencies.
- If your aircraft has a transponder with Mode C (or Mode S), **switch it on!**

AOPA Wings Award Scheme Updated



The AOPA Wings Award Scheme was recently endorsed as meeting the CAA's **Pilot Recognition for Operational Up-skilling and Development (PROUD)** criteria. However, the Authority considered that the air touring experience requirements of the scheme were rather too demanding. So these have now been amended as follows:

To encourage cross-country flying, qualifying touring flight requirements are required. These may not include flights flown by professional pilot licence holders in the course of commercial activities. Applicants will be required to show proof of having met the specific requirements outlined below:

SILVER An accumulated total of 300 nm of touring flights of not less than 30 nm per flight. The pilot is to be PIC for each flight claimed; the aerodromes of departure and arrival must be different and the pilot must have flown at a total of no less than 3 different aerodromes.

GOLD An accumulated total of 500 nm of touring flights of not less than 30 nm per flight, which may include previous touring flights at Silver level. One flight is to be a VFR cross-country flight, which may include an overnight stop, of at least 300 nm (aeroplanes) / 100 nm (helicopters) in the course of which full stop landings at 2 aerodromes different from the aerodrome of departure are made; each leg should be flown consecutively. The pilot is to be PIC for each flight claimed, the aerodromes of departure and arrival must be different (except for the 300/100 nm flight) and the pilot must have flown at a total of no less than 4 different aerodromes.

PLATINUM An accumulated total of 600 nm of touring flights of not less than 30 nm per flight, which may include previous touring flights at Silver and/or Gold level. One flight is to be a VFR cross-country flight, which may include an overnight stop, of at least 450 nm (aeroplanes) / 150 nm

(helicopters) in the course of which full stop landings at 3 aerodromes different from the aerodrome of departure are made; each leg should be flown consecutively. The pilot is to be PIC for each flight claimed, the aerodromes of departure and arrival must be different (except for the 450/150 nm flight) and the pilot must have flown at a total of no less than 5 different aerodromes.

We considered that it should be reasonably easy for pilots who meet all other qualifying criteria to reach Silver level of air touring experience. However, for higher levels we've included at least one 'long' flight as indicated; if the legs are flown consecutively as we recommend, then this flight also meets qualifying criteria for the CPL long cross-country flight. The CAA agreed that an overnight stop is perfectly acceptable, particularly for safety reasons at times of year when hours of daylight become shorter. However, if pilots prefer to share their touring leg-and-leg about with another pilot, then that's also fine provided that whichever pilot(s) wish to claim credit for the flight have each achieved the required distances and landings. So if 2 pilots share a 600 nm touring flight, with each achieving 300 nm and 2 intermediate landings at aerodromes away from home, then that'll count towards Gold level even though it doesn't meet the requirements of the CPL qualifying cross-country flight.

For full details of the Wings Award Scheme, please see www.aopa.co.uk and look under the Flying Topics tab.

Trials to start of low-cost ADS-B transceiver for GA

Now ready for formal flight trials, Project Eva aims to make progress towards low-cost ADS-B device for GA. But as **Bob Darby** explains, challenges remain in achieving a market-ready Low Power ADS-B Transceiver (LPAT).



Project EVA - “Electronic Visibility through ADS-B” - is about to start its trial phase. The EVA Team of AOPA, NATS, Funke Avionics and Trig Avionics is ready to start flights of the carry-on LPAT (Low Power ADS-B Transceiver) with volunteer pilots. The flying activities will explore how electronic see-and-avoid can be installed and operated in light GA aircraft to improve safety by reducing the chance of airborne collision.

What is Project EVA?

Project EVA is funded by the Single European Sky Air Traffic Management Research programme – otherwise known as SESAR. SESAR is a 2.1Bn euro group of projects over more than a

decade that are mostly about improving efficiency and reducing costs for the “heavy metal”; commercial airliners flying into large international airports.

Project EVA is the result of Martin Robinson’s persistence in reminding the Brussels-based SESAR management team that we all fly in the same sky and an initiative of NATS to promote electronic conspicuity for light aviation. The result is that General Aviation is now getting some of the SESAR action.

Project EVA is a “large scale demonstration” of the concepts and is the step before commercial introduction of the fruits of the SESAR research work. EVA aims to demonstrate the use of

“electronic conspicuity”, the technical underpinning of electronic see-and-avoid.

Electronic Conspicuity

Under the Airspace Safety Initiative, the CAA has been looking at means of reducing the collision risk for GA and in mid-2014 the “Electronic Conspicuity Working Group” concluded that ADS-B on 1090MHz (the worldwide radar surveillance frequency) offers the most promise. At the same time, a NATS initiative to develop an affordable ADS-B transceiver and cockpit traffic display, known as the Low Power ADS-B Transceiver (LPAT) was ready

Live LPAT screen shots, with the LPAT on the ground. These show overflying aircraft in and out of Gatwick that are transmitting on ADS-B and is perfectly representative of the cockpit view. The yellow square indicates a proximity alert derived from Mode C height information, not ADS-B.



Say goodbye to sky high insurance

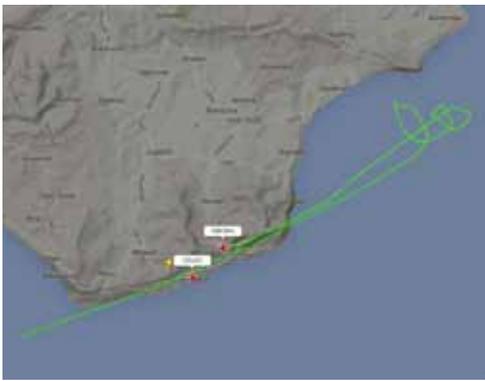
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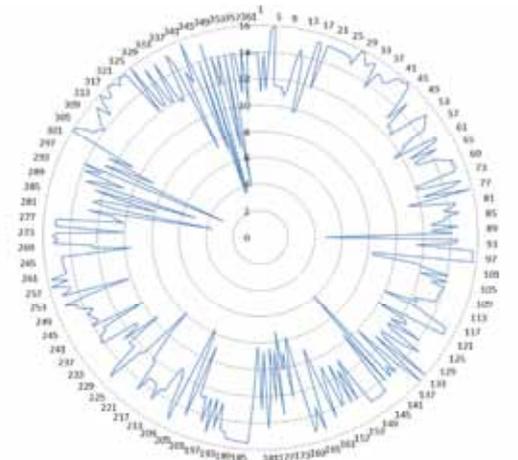
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Right: NATS LPAT polar diagram. Shows good reception range at all relative bearings from the aircraft. Reception is almost completely solid up to 8nm and frequently gives 16nm reception range. Such performance is very important for all-round electronic visibility of other aircraft.



Left: Screen shots of NATS tests showing what people following the flights on FR24 should see.



LPAT is strictly for use in Day VFR. With the nights drawing in we want to carry out as much flying as possible before the weather deteriorates. The AOPA pilots who have already volunteered have been asked to pair up for cooperative flights to see how well the LPAT operates both en-route and in the circuit.

LPAT can be battery-powered and is particularly suited for much smaller, lighter aircraft, including those without a transponder. Project EVA wants to see how well LPAT will operate in such aircraft.

LPAT aircraft signals can readily be received by applications such as Flight Radar 24, so when the dates and times of trial flights are known, you will be able to watch the flights.

What next?

In addition to the trials of the LPAT, Trig Avionics is developing an implementation of the FAA standard device, known as the "Traffic Awareness Beacon System" (TABS) for the ADS-B-Out transmission element and "Traffic Situation Awareness with Alerts" (TSAA) for the ADS-B-In receiver and display element.

Project EVA plans first that TABS/TSAA equipped aircraft will fly with each other for initial checks, and then with LPAT equipped aircraft to check mutual interoperability.

Through the NATS GPS transponder trial, several aircraft have connected an uncertified GPS to a certified Mode S transponder, so that they emit 1090MHz ADS-B. This can be detected by the LPAT, TSAA and also by Power FLARM, used mainly by glider pilots, displaying ADS-B signals to pilots.

The Project EVA programme plans for aircraft equipped with all these devices to fly together as an interoperability check, in multi-device trials, towards the end of the flight programme in early 2016.

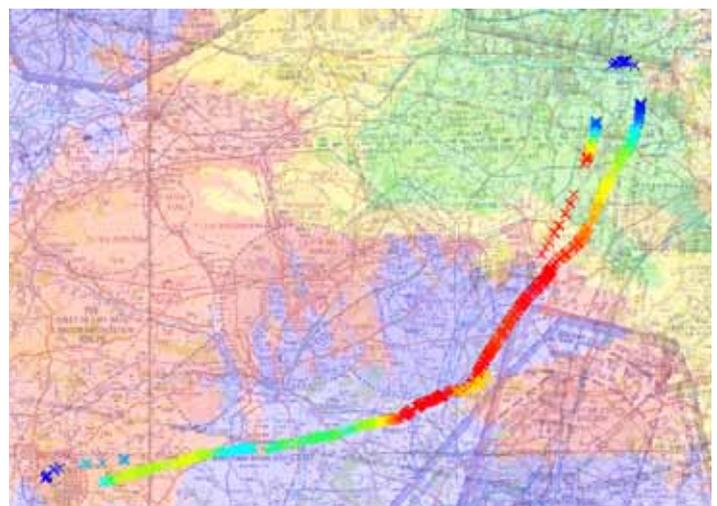
to move beyond the pure research stage. The FAA under pressure from the powerful GA lobby in the United States, together with Europe, has been working on a standard that will support ADS-B based traffic situation awareness for GA. This complements the FAA Next Generation air traffic management system which uses ADS-B as an almost complete replacement for radar.

Through NATS the opportunity to bring all these parallel activities together under the EVA Project was proposed to SESAR: to fly prototypes of LPAT, to fly an implementation of the FAA standard and, a further initiative of NATS, the uncertified GPS-plus-Mode S transponder trial, to show that affordable Electronic Conspicuity works, can be safely fitted in light GA aircraft and used by GA pilots.

Where are we now?

The LPAT development has delivered working prototypes that NATS has checked out in technical proving flights in the Isle of Wight area. AOPA's role, through its pilot community, is now to manage trial flights with as wide a range of GA pilots and light GA aircraft as possible, to gather feedback from user experience so that the production version of LPAT will meet the aim to support see-and-avoid as effectively as possible.

"LPAT ... " Data received from NATS WAM-ADS-B system in SE UK. Light aircraft transmitting ADS-B flying from Compton Abbas. The colours indicate approximate height from blue (low level) to red (higher level). This shows NATS capability to monitor the trials.



GA News Roundup

AOPA PROUD that CAA recognises Wings Scheme

In August AOPA became the first organisation to be endorsed under a new Good Training Provider scheme run by the CAA. AOPA's established Wings Award Scheme was judged by the CAA as a worthy recipient of its Pilot Recognition for Operational Up-skilling and Development (PROUD) initiative.

The CAA introduced PROUD as a way of improving the general skill level of private pilots, particularly recently qualified PPLs and NPPLs. AOPA's Wings Award Scheme allows and encourages pilots to develop various skills level in a structured and logical way.

Commenting on the PROUD endorsement, Martin Robinson, chief executive of AOPA UK, said: "This new innovative scheme from the CAA is an excellent way for industry to work in partnership with the Authority... AOPA is 'PROUD' to be associated with this initiative." The LAA later also joined PROUD along similar lines to AOPA.

Tony Rapson, head of the CAA's GA Unit, said: "We know that pilots who continue to develop their flying skills are safer than those who do not...we therefore want to encourage all private pilots to find the time to acquire new skills and complete additional training after getting their licence."

For further information on the revised AOPA Wings Scheme, please see p14.



New EASA Maintenance Programme

To standardise maintenance programmes for EASA-regulated aircraft a new Minimum Inspection Programme (MIP) has been introduced. This is an amendment to the Part M regulation and will apply to ELA1 aircraft, which are those with a Maximum Take-off Mass (MTOM) of 1,200 kg or less where they are not involved in commercial operations.

Owners can now choose from a number of different aircraft maintenance programmes (AMPs). The new regulation introduces two new options to the existing Part M requirements, one of which is the MIP, while the other is based on manufacturer's recommendations.

Initially the MIP Regulation will affect owners of ELA1 aircraft, Part 145 organisations, Part M Subpart G CAMOs and Part M Subpart F maintenance organisations and licensed engineers.

There are three main changes: Owners can self-declare their aircraft maintenance programme; annual inspection and issue of the Airworthiness Review Certificate (ARC) can be done at the same time by the same licensed engineer; Part 145 and Subpart F organisations have additional new privileges.

The introduction of the MIP precedes the new Part M Light regulations that are expected to be adopted in summer 2016. Aircraft owners will then be able to choose either Part M or Part M Light and the MIP will then extend to aircraft between ELA1 (1,200kg) and ELA2 (2000kg).

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Charity Flights

More UK private pilots will be able to offer flights for charity following a simplification of the CAA requirements. New guidance replaces the Aeronautical Information Circular (AIC W 104/201) on charity flights.

A blanket permission is now available to pilots if they meet certain basic requirements. This removes any need for pilots to have to apply to the CAA to carry out individual flights. The changes place more emphasis on pilots providing a thorough explanation to passengers of the level of safety and risks prior to the flight taking place.

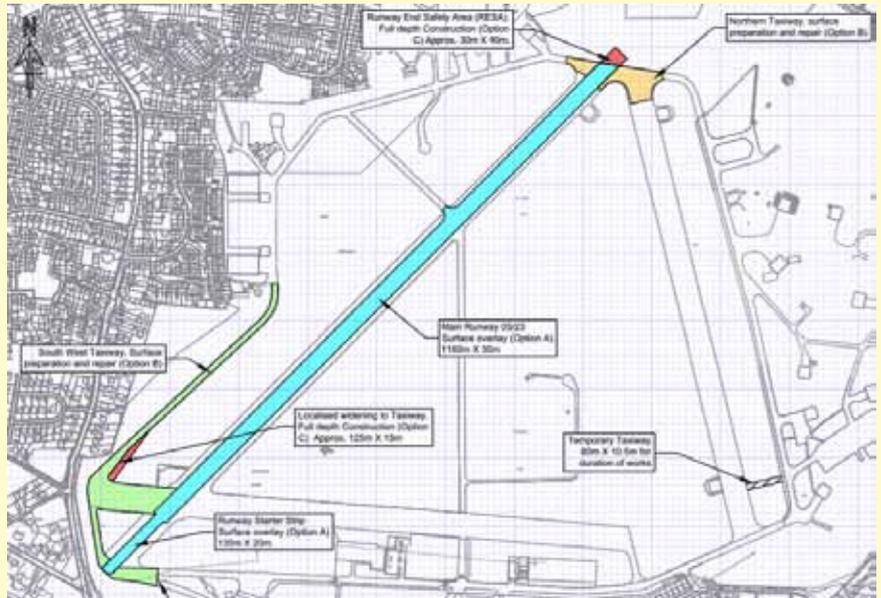
As well as simplifying the requirements, other changes include extending the types of aircraft that can be used to include permit aircraft such as hang gliders, paragliders, microlights, gyroplanes and powered parachutes; and allowing flights to take place from unlicensed airfields

To use the permission, pilots must ensure that they receive no payment for the flight. All money must be paid by the passenger directly to the registered charity and the charity cannot be the operator of the aircraft. Pilots should also check that their insurance cover is adequate and ask the passenger to check that their own life and any private health insurance covers the intended flight.

Stapleford launches Integrated Courses

Following hot on the heels of the Civil Aviation Authority (CAA) approval for Stapleford Flight Centre's modular Air Transport Pilots' Licence (ATPL) Theoretical Knowledge courses, Stapleford has now been given the go-ahead to run Integrated Pilot Training Courses at the airfield near Romford in Essex.

Head of training Colin Dobney said, "We will be launching the new full-time integrated course in October, using our brand new Tecnam P2008JC aircraft for the initial stage; the PA28 Arrows for the intermediate stage, and subsequently our DA42 aircraft, providing maximum exposure to glass cockpit systems and multi-engine flying. From the outset



Daedalus Vision Consultation

Fareham Borough Council launched its draft Daedalus Vision consultation this summer, encouraging people to have their say until 23 September. The draft vision explained how the Council, which owns the airfield and oversees the Solent Enterprise Zone, sees the future for the land and includes: The council's objectives for the site and how it intend to achieve these; and the types of development and businesses it would like to see at Daedalus. The draft Daedalus Vision and Outline Strategy can still be viewed at <http://www.fareham.gov.uk/consultations>. The airfield is often referred to as Lee-on-Solent airfield and is operated by Regional & City Airports.

students will divide their time between flying and theoretical knowledge. The course also includes training for operating multi-crew jet aircraft based on our state of the art ALX simulator."

The integrated course is 80 weeks in duration taking cadets, some who might have never flown, through to a Commercial Pilot Licence. Graduates will be qualified and ready to apply for First Officer positions and commence type ratings.

BMAA adopts oversight standard

The British Microlight Aircraft Association (BMAA) has become the first organisation to be given 'A8-26' approval by the CAA, giving it greater responsibility for airworthiness oversight of recreational 'Permit to Fly' microlights.

Under the approval the BMAA will provide design, construction, maintenance and continuing airworthiness management oversight of

any microlight on a Permit to Fly.

Welcoming the approval, Geoff Weighell, chief executive of the BMAA, said: "We are extremely proud to be the first organisation to be approved to the new standard."

EGNOS upgrade

The European GNSS Agency (GSA) is pleased to announce that after extensive ground and space testing, the SES-5 GEO satellite has now entered into European Geostationary Navigation Overlay Service (EGNOS) operational platform broadcasting EGNOS Signal-In-Space (SIS).

SES-5 – which replaces Inmarsat-4F2 – will ensure reliable EGNOS services until 2026. It has been introduced through EGNOS System Release V241M, which will enable a range of performance improvements. In particular, EGNOS will offer even greater stability during periods of high ionospheric activity.

“SES-5 is the first step of the complete renewal of the EGNOS Space Segment, securing the EGNOS services for the next decade and the future transition to the dual-frequency multi-constellation services. It will be completed by the introduction of the ASTRA-5B signals and the procurement of a new EGNOS payload which are both planned for 2016,” said Carlo des Dorides, GSA executive director.

EGNOS is operated by the European Satellite Services Provider (ESSP), under contract by the GSA on behalf of the European Commission.

CAA 60-Day Update

In its fifth regular update to confirm its work in the area the CAA said that in the last 60 days it had:

- Simplified guidance on, and issued a permission allowing more private pilots to undertake, charity flights.
- Presented the AOPA Wings Award Scheme with the first endorsement under the CAA's new 'good training provider' scheme (PROUD initiative).
- Progressed the review of the UK Air Navigation Order to simplify the rules covering GA. The final consultation on the subject was set to start on 24 September and last six weeks.
- Concluded the second consultation on new simple requirements for the initial testing process for experimental aircraft.
- Issued guidance on the changes introduced by EASA to simplify aircraft maintenance.
- Concluded the consultation on proposals to make private pilot medical requirements more proportionate. The consultation attracted one of the highest number of responses ever to a CAA consultation with the majority supporting the proposals.

The final 60 day update for 2015 will be published on 2nd November.

HAA Dates

The 2015 Historic Aircraft Association (HAA) Annual Symposium will be held at the RAF Museum Hendon, NW London on Saturday 31st October, starting at 1030h (Museum opens 1000h). Themes include 90 Years of the de Havilland Moth; RAF Hunter Ops in Aden; Grandad's Bristol Scout; Blenheim Rebirth. Tickets have been held at the same price as last year, i.e. £25 for HAA members and £30 for non-members. The ticket price includes welcoming coffee / tea etc and a first class hot lunch.



In a unique situation, The owners of Old Sarum want to build houses near the airfield while keeping it active, but protesters say the houses will be too close and ultimately result in the closure of the airfield, which is of significant historic significance.

Sign the GA Airfield Petition!

In reaction to what the LAA CEO Stephen Slater characterised as, “the darkest news to face General Aviation for some time,” *Pilot* magazine instigated a petition which could force the UK government to look again at the contentious classification of airfields alongside disused industrial sites.

If a petition gets 10,000 signatures the government will respond, but if it gets 100,000 signatures the petition will be considered for debate in Parliament.

Aviation organisations including the LAA, General Aviation Awareness Council/AOPA, British Helicopter Association, British Model Flying Association and other members of the CAA's GA Partnership have been contacted and quickly agreed an effectively worded petition to be set up on the Government's website.

The group of signatories required to launch the petition, which went live on 27 August. Titled 'Keep Airfields Greenfields - Review Airfield Classification as Brownfield Sites,' the petition states: “In 2003 an ‘administrative oversight’ led to the deletion of planning protection from airfields being classified as brownfield sites. As a result, airfields are being closed by developers, breaking transport links and destroying significant areas of natural habitat within airfield boundaries.

“The UK aerodrome network is regarded by DfT as an important part of the national transport infrastructure and there is strong evidence that airfield sites offer low-insecticide, low-herbicide sanctuaries for plants, insects and associated wildlife. We demand a review of the brownfield designation of airfields for redevelopment, in recognition of their economic benefit and importance as environmental ‘green spaces’, and that Government Planning Policy reverts to that previously in place.”

To add your signature go to: <https://petition.parliament.uk/petitions> and search for ‘airfields’ after clicking ‘all petitions’.

Game Bird to fly

The aircraft manufacturer Game Composites has been approved as an EASA design organisation, and its prototype GameBird 1 has been given a Permit to Fly to begin flight testing. The aircraft will still need an EASA Type Certificate before it can be sold commercially. The GameBird will be the first new UK designed and built aircraft certified to international standards since the 1980s. Following consultation, (which the CAA contributed to), EASA has released CS-STAN (Standard Changes and Repairs) at Phase 1 which can now be used on eligible / applicable aircraft <https://www.easa.europa.eu/document-library/certification-specifications/cs-stan-initial-issue>

Goodwood Revival sees opening of unique Shell fuel station



Legendary racing driver Stirling Moss with Shell's Melanie Lane and Lord March, formally opening the new fuel station.

It was an honour and a privilege to be able to fly in to the Goodwood Revival on Sunday 13th September to cover the opening of Shell's new fuel station - via Biggin Hill to pick up the Heritage Hangar's Paul Campbell, writes *Aircraft Owner & Pilot's* Ian Sheppard.

Mixing with the numerous Spitfires and other vintage aircraft was interesting and the courtesy transport from our spritely (1969) Cessna 150 was most welcome - these were vintage wartime vehicles also.

We met with Melanie Lane, Shell's general manager aviation - Europe (pictured above), at the Shell press chalet. Then to the new fuel station, meeting Stirling Moss and Lord March for a photo opportunity. Melanie said that Shell was very keen on the heritage part of its brand and history, and goes back a long way at locations such as Goodwood. She said that more airfields around Europe were "in the pipeline" (if you'll pardon the pun), but that Goodwood was "unique" in its heart. In the spirit of the Revival, Melanie wore her grandmother's old WAF uniform.

Following the photoshoot we toured around and spoke about Shell in Europe, its various fuel research efforts, and decided this would make a great future article. Their UL avgas is well on the way, for example.

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VFR

It's Garmin time!

The Garmin D2 watch range is impressive technology for any wrist. Instructor **Mike Derrett** puts it through its paces.

I'm not a natural user of the latest electronic gadgets, having learnt my flying and boating navigation skills using paper charts, plotters, parallel rules and pencil lines. However the convenience and benefits of GPS and modern chart plotters has not entirely passed me by, and while sceptical I'm always keen to try out the latest electronic navigational aids.

As a pilot, flight instructor and boater I know that both boating and aviation have seen the birth of many modern electronic aids.

"I was intrigued when Garmin announced the D2 and Quatix watches and tempted enough to purchase the D2 model early in 2014 for flying."

I have used and owned various Garmin GPS models over the past 20 years and seen the development of GPS from the basic models with just latitude and longitude position indicators to the sophisticated moving map plotter models that we now take for granted.

One of the most novel of the Garmin aviation range of products is the D2 range of GPS watches. It's available as the D2, an abbreviation of Direct to, for pilots and the Quatix for boaters, a more stylish model for aviators has also just been introduced, the D2 Bravo.

For a long time watches with rotating bezels and stop watch functions have been fashionable showing that you are a serious pilot or sailor, or more often just to create the impression you might be! A few years ago 'smart watches' owing more to the electronic era than the wind up era appeared on the scene, so it was only a matter of time before somebody introduced a smart watch for both pilots and boaters.

I was intrigued when Garmin announced the D2 and Quatix watches and tempted enough to purchase the D2 model early in 2014 for flying. I have used it not only in Europe but in the United Arab Emirates and Asia. It's not a toy, indeed its looks are more functional than stylish and it really works, in one instance flying a Tiger Moth and caught out with no electronic nav aids in poor visibility it brought me back to the airfield accurately.

Think of [Garmin's new D2 watch range](#) as a powerful aviation WAAS GPS



receiver with a worldwide database that you wear on your wrist. The D2 range bundles multiple miniature electronics into one small, impressive, hands-free package that is made to withstand a tough life being waterproof to a depth of 50m. The original D2 is more functional in appearance in a chunky way, but still light enough that to wear without inconvenience, while the D2 Bravo version is considered more stylish for use about town as well as flying. The capability of both watches is impressive with both models incorporating:

- Time and date function in both UTC and local time which can be set automatically depending on the GPS position. Timers and vibrating alerts for inflight reminders.
- Direct-to and nearest navigation functions using a built in worldwide aviation data base so you can fly to the airport or way point of your choice or find the nearest airport quickly using a moving map display or the HSI .You can also add in your own waypoints.
- An altimeter with adjustable barometer setting and altitude alerting capability.
- Temperature sensor with density altitude reading.
- 3-axis electronic compass.
- Ability to integrate via wireless with the Garmin Pilot app, Garmin's VIRB HD camera and more.

Does what it says on the tin!

The D2 does everything it says on the lid of the box! Navigating with the D2 is relatively straightforward once you have spent some time with the quick start manual and for more advanced functions with the downloaded owner's manual.

The watch's 1.2-inch base display is small in both versions but clear to read even in bright sunlight and there is an orange backlight for use at night. You can set up very readable data pages that will give you all of the information you need. With many different data fields possible, there is so much information available that it pays to set up custom profiles that help manage the information.

The rechargeable built- in lithium-ion battery on both models has approximately a 16-hour life with the GPS active and about 25 hours when the watch is wirelessly connected to other system devices. If the GPS is off, with only the D2 basic watch functions being used, battery life can be as long as six weeks. Recharge took me about 1.5 hours. For those off the power grid, Garmin offers an optional lithium battery pack and a folding solar panel for re- charging. The standard kit includes a variety of AC adapters for international power systems and the charging cradle which clamps to the connectors on the back of the watch. Charging is via a USB or with the supplied mains charger. The standard D2 watch, which weighs 2.9 ounces and comes with a nice leather strap comfortable enough to wear every day.

So what sets the D2 Bravo model apart from the older D2 version? The D2 Bravo has a faster processor which enables extra functions such as a colour display and the ability to receive TAF's and METARS via Bluetooth linked to your mobile phone, although the phone must be receiving

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a data signal, somewhat questionable while in the air. Apart from that it has a cleaner more modern design with a thinner bezel, more a fashion statement than the original D2 with its more rugged appearance.

Although to some this defines the pilot image, in motoring terms similar to the difference between a Land Rover Defender and a Range Rover, with the Defender you're the real four wheel drive deal! And you have to pay for the style of the D2 Bravo which is currently sold in the UK for an average of £558 including

VAT while the D2 lists at a much lower £323 including VAT. Garmin plans to continue to sell and support the first generation D2 Pilot Watch alongside the new D2 Bravo.

Over 18 months use I have been thoroughly impressed with the capabilities of the original D2 watch. To get started I found it useful to go through the comprehensive downloadable user manual and wear the watch every day to use any free time to familiarise myself with its operation so that once in the aircraft, operation becomes easier.

The unique bundling of functions, in conjunction with Garmin's software and airfield data base, clearly makes the watch a useful secondary navigation tool, and one you're likely to have at hand when needed!

In the December issue of *Aircraft Owner and Pilot* we will review the combination of the Garmin D2 watch with the Garmin VIRB Elite camera and how its use can help in flight training.

About the Author

Mike Derrett has been flying for 53 years since going solo in an ATC glider in 1962. He is currently an Instructor and an Examiner for the PPL, flying Tiger Moths, a Harvard and modern types at Cambridge Flying Group, Duxford based Classic Wings and Andrewsfield Aviation in Essex.

Mike Derrett



Taking the plunge!

...into IMC: The Competency Based Modular IR

For many years, the Modular IR would entail completing a Multi-Engine course of 45 hours of training at an EASA Training Organisation (assuming 10 hours credited for holding a CPL). However, due to the heroic efforts of a number of GA organisations on the EASA FCL.008 working group, the Competency Based Modular IR (CBM IR) route was introduced into EASA FCL legislation and UK CAA documentation in Summer 2014. **Matt Lane** was among the first to take the course.

The aim of this course is to train PPL or CPL holders for the IR, taking into account prior instrument flight instruction and experience. The actual breakdown of requirements is quite complex and I won't attempt to dissect it here, but it can result in a substantial cost and time saving on the 45 hour route.

I am a CPL, FI and Examiner, and have been instructing and examining for the IMC rating for about 7 years. My next goal was to obtain my Multi-Engine Piston (MEP) rating and Multi-Engine Instrument Rating (ME-IR). I completed my MEP successfully in May 2015, and the plan was to complete the IR during Summer 2015 in a scheduled break between work roles.

In practice, the CBM IR meant I could credit my previous IFR training (during CPL course and IMC rating and instructor courses) and IFR Pilot-in-Command time such that I needed to complete a minimum of 15 hours IR MEP training at a Training Organisation. I would of course still need to reach test standard, but I reasoned that even if I took over the minimum 15 hours, I should be able to achieve a



substantial cost and time saving on the full route.

Having now successfully completed the course and test, this write up is a collection of my thoughts which I hope may help other pilots considering the CBM IR. I don't intend to describe the course content and test in detail, as it is well detailed in CAA Standards Document 01 and is of course the same as the normal IR, but to concentrate on some considerations specific to the Competency Based route.

Theoretical Knowledge (TK)

I completed the ATPL TK course so can't really comment on the new CBM IR TK course. I had already done CPL TK some years ago for my CPL, but I elected to take the full suit of ATPL exams (only credit was VFR Comms!) rather than the CBM IR course so I retained future options once I had the CPL-IR. They are a pain to get through and could be improved, but they are the system and exams aren't going to go away. They are do-able if you just knuckle down and I know a large number of people who could have passed them all by now if they had redirected the amount of moaning and griping about exams towards actually studying! I used ProPilot (now CTC) with everything ipad based which was brilliant; the days of lugging multiple large ring folders around are thankfully long gone.

Which Training Organisation?

I set myself a number of criteria when looking for an Approved Training Organisation (ATO):



Must be daily commutable from home – avoids hotel costs and keeps family time.

Home based instrument approaches – avoids having to waste time flying for approaches.

Must have more than one runway to avoid loss of flying days due cross-winds.

Good track record of IR passes / know the IR test and standards well.

More than one MEP aircraft available – I didn't want to lose days of training due to maintenance or unserviceability.

Good, professional and responsive customer service attitude (somewhat of a rarity in UK it would seem!).

I approached a number of ATOs, some never supplied a reply to emails or calls, and a number replied they had little appreciation of the CBM-IR and didn't have the relevant approvals in place. However, Aeros at Gloucester were really helpful and came straight back to me. They were just waiting for their CBM-IR approval to come back from the CAA and suggested a visit. After a detailed discussion in person, including meeting the staff, a tour of facilities, simulator and aircraft, I came away very impressed and signed up for a three week block of training. Aeros and Gloucester ticked all the boxes for me, and I would urge people to draw up a similar list of their personal criteria and stick to it. A personal visit is also vital to ensure you

like the feel / style of the organisation, meet some of the instructors and get a warm feeling that your course is going to be well organised and run efficiently. I would also encourage people to pretty much forget about making direct course cost comparisons – badly taught lessons, hotel / travel bills and generally inefficient training could easily negate any cost savings.

Choice of Aircraft

After discussion with friends, I was keen to do the course on a modern EFIS aircraft. Not only would this be the kind of machine I hoped to fly post-IR, but I reasoned that making life more difficult than necessary for the course by not making the most of all available technologies would be false economy. Luckily Aeros were able to offer the Diamond DA42 or Tecnam P2006T, both fitted with Garmin displays and autopilots. In the end, I plumped for the Tecnam as it had good availability, was cheaper than the DA42 and the build and feel appealed to me. A total cruise consumption of 40 litres an hour for 130kts IAS / 145kts TAS from the two Rotax 912s was certainly impressive. Had it been autumn/winter, I would have probably gone for the DA42 due to its Flight-Into-Known-Icing clearance which the Tecnam lacked; certainly in the UK lack of de-icing capability could

seriously restrict your training progress.

I found the Garmin setup (Garmin 950 in the Tecnam) to be a revelation for instrument flying. The sheer amount of information available is hugely impressive, the large format display makes attitude selection and the scan easier, and capabilities like auto-ident of nav aids and wind vector displays give you valuable capacity when airborne. The IR in the UK also still contains a large degree of single-needle tracking work, especially NDB procedures and holds, and I found the Garmin ability to overlay the ADF display onto the HSI with selectable course bar makes life much easier for the non-precision tracking elements. Having said all that, the Garmin philosophy and controls take some learning and time spent on ground briefing / reading and practice on a ground computer simulator is vital before airborne use. There is also the horrible design trap of having the course selector and barometric pressure setting on the same rotary selector – many a student has inadvertently changed the altimeter pressure setting when changing course and failed to notice before a descent or climb.

Many readers will perhaps be thinking of using their own or group aircraft. I would counsel a degree of caution here. Most ATOs and their instructors know their own aircraft and settings inside out, and know what works for the IR flight profile. Some privately operated aircraft also have quirky equipment or instrument fits, and I would say that a good HSI, autopilot and well integrated airways approved GPS are vital – anything less will make your flying far more demanding than it need be. Doing the course on your own aircraft is certainly not impossible, but do think carefully before introducing more complications to the course.

Attitude and Approach

By this, I mean the mental versions! The course and flying was very mentally draining and needed total focus, I would strongly recommend it needs to be done in concentrated blocks of time and you need to switch off from work/other distractions – no taking work emails and phone calls. If you don't immerse yourself in the training I would say it will take you noticeably longer. The hourly rate for



good quality IR training is high (even if single engine), you must maximise progress in the aircraft and be well prepared for every trip.

Before starting the CBM IR I would urge people to be honest (or seek an honest opinion from an IRI) over the level and standard of their current IFR flying; you could end up spending a lot of time airborne sorting out problem areas or bad habits and actually end up spending more than the full IR course which uses extensive simulator time before the aircraft. Breezing in to an ATO expecting to be test perfect after the minimum 10 hours is certain to be unrealistic; each training sortie is around 2 hours long so the hours can mount up quickly.

Some people may also have been out of the training environment for a long time – it is important to remember that ATO instructors know what standards of aircraft operation, sortie management, checks and handling will be required during the IR test and you must be prepared to work to this. They also know what the Examiners will and won't permit during test; for example holds will have to be flown manually and using single-needle tracking, with any moving

map mode deselected and autopilot NAV mode is not permitted. Some of this could no doubt generate debate and may not be how you intend to operate post-IR test, but the course is designed to train and test a generic baseline IR flying ability. Overall, it is important to switch your brain and attitude into training mode and accept the course for what it is – getting you to pass standard for the IR test schedule.

The Flying

The full IR sortie and test profile is something like: instrument departure, enter airways, short airways routing to destination airport, radar vectored precision approach to minima, missed approach, simulated engine failure during go around, diversion back to home airfield. General handling (stalls and limited panel) on way back. Join hold then simulated asymmetric procedural non-precision approach to minima, asymmetric visual go-around into asymmetric circuit to land. A typical profile from Gloucester would be departure, direct BADIM to route the L9 airway to ERNOK, radar vectored ILS at Cardiff, then return to Gloucester for holds, NDB approach and circuit.

The aim of the training was build up to practicing these full profiles as soon as possible, so we started with procedures at Gloucester, then added in the airways section, then included the asymmetric work until we were flying the full profile each sortie. We also aimed to visit most of the airfields that could be expected on test routes. The cost of approaches adds up significantly so remember to budget for this. Although I was experienced at IMC rating level, these profiles were a huge step up in complexity and workload, I frequently landed totally wrung out and a two hour sortie went by in a flash! Luckily the training at Aeros was superb, with really good value-added pre-flight briefings and post-flight debriefs, so I was able to progress well and quickly brush up on weaker areas.

Knowing the timeline for each flight and the pre-flight planning and sticking to it is vital – there is nothing worse than feeling rushed or being behind the timelines, and it will compromise the quality of your flying. Every flight I worked back the timeline from the beacon slot, through to take off, taxi time, start of checks and defined a 'crew in' time which I made sure everything was ready for and we worked to. Availability

of training approach slots seems to be getting ever constrained; from Gloucester we used Cardiff and Coventry regularly – Bristol and Birmingham were very difficult to get available, and Oxford was generally booked up by the home school. This makes flexibility over sortie timing and being accurate when booked in ever more important.

The IR is a very procedural, checklist and set process driven type of training and flight. One of the most vital things is to know and memorise the pitch attitude, power and speed settings for every phase of flight; you simply do not have the time or capacity to be faffing around with reconfiguring the aircraft. For example, it should be instinctive to be able to set a desired descent rate, at a desired speed, while maintaining required heading.

Cockpit management is also very important, a well organised kneeboard with clear PLOG and approach charts and checks all readily available is crucial – routing back to the GST beacon to join the hold for an NDB approach when the runway has swapped on you is not the time to find out your plate for the opposite runway approach is in the back of the aircraft, ask me how I know!

Single pilot IR is hugely demanding on your capacity, if your RT isn't slick and you are stumbling over checks you will struggle and waste expensive training hours. Time spent practicing procedures with a computer and 'hangar flying' sat in the aircraft learning checks can really help progress. I used the RANT XL software every evening during the course, with various wind scenarios, just to practice the holds and procedures and replay anything that hadn't gone so well during the day.

In common with most EFIS cockpits, the Tecnam standby instrumentation is a small reserve attitude indicator, ASI and altimeter, albeit with no balance ball strangely. This means that the traditional limited panel failure scenario of no attitude indicator and no directional gyro cannot be replicated during the test and a sign off of competency in these aspects during training is required. Like most schools, this could be done in Aeros FNPT2 simulator which was configured like a Piper Seneca and we booked in one simulator sortie. We also took the training opportunity to practice in depth some procedural aspects like DME

arcs and procedure turns that would be expensive to do for prolonged times in the aircraft. I had mixed feelings about the simulator; the ability to pause and replay procedures was really useful but I didn't find it the easiest thing to fly accurately. I would recommend anyone planning to use FNPT time plans a concentrated schedule with defined training / aims and completes it before going into the aircraft, rather than adhoc sessions, as felt it could set back your handling accuracy in the aircraft to keep swapping.

After 15 hours of flying, I completed a full 2 hour mock test profile with the CFI. This went well and following

“One of the most vital things is to know and memorise the pitch attitude, power and speed settings for every phase of flight.”

some really useful debrief points and good tips, he recommended me for test. Unfortunately, this coincided with a peak holiday period and I had a frustrating wait of over a week for CAA Flight Test Bookings to source an available Examiner for the test. Worried that I could go a bit rusty during the week, I elected to do another test profile with my instructor and this was really worthwhile. At £746 for an initial test and £500 odd for a partial (plus aircraft hire), you really don't want to partial or fail for lack of another training sortie or two and I strongly recommend people try and set a conservative budget for their training hours.

The Test

I was blessed with good weather on test day, main cloudbase was around 4-5000ft so we would be in IMC for the en-route sections, but holds and approaches would largely be clear of unhelpful turbulent cumulus cloud. Our destination airfield for planning was Coventry with the airways section through the Daventry CTA via the DTY VOR, an ILS would be flown at Coventry with holds and non-precision approach back at Gloucester. The wind

was almost calm which was a mixed blessing, it made for a degree of stability but relatively high groundspeeds on approach which required some thought and the light wind meant both Gloucester and Coventry kept swapping runways and approaches so I had to be prepared for a variety of procedures! In the end, all went well and I was delighted to achieve a first time pass. It was a demanding sortie, but Aeros instruction had been spot on and I felt absolutely ready and prepared for everything the examiner wanted to see.

Final Impressions

The single-pilot IR course and test is undoubtedly some of the most demanding flying you can undertake, but it is tremendously rewarding and will add hugely to your flying capability and confidence. It is important to remember that the course is designed to train you to pass the IR test schedule and is not like everyday 'touring' usage of an IR; to be honest getting holds and procedures / approaches well flown and accurate is the best use of expensive training hours rather than chugging along an airway which is relatively simple. I found Aeros and Gloucester to be excellent in every respect, other schools have good reputations as well, choosing an organisation that you are comfortable and happy in is vital.

I feel the most important lesson is that you must get an honest appraisal of your IFR skills and flying standards from an IRI before attempting the course; for some people extended training hours in the aircraft could easily outweigh CBM IR savings and you might have been better attempting the normal modular IR course with its simulator phase lead in. However, if you are prepared to focus on the course, work hard and absorb the training it is a fantastic opportunity to obtain a hugely capable rating in an accessible and efficient manner.

Matt Lane is a CPL/FI/FE and currently Head of Training at RAF Brize Norton Flying Club; he also trains and examines for a number of schools around the Oxfordshire and Gloucestershire area and is on the AOPA Instructor Committee. He is more than happy to talk to anyone considering the CBM IR who wants advice or training recommendations.

TEXEL

Texel, pronounced “Tessel”, is the largest of the Wadden Islands, a chain of 14 low sandy islands that continue the line of the coast of the Netherlands north-east towards Germany. “Texel International Airport”, founded in 1937, claims to be one of the best grass airports in the Netherlands, and it did not disappoint when AOPA MWG member Bob Darby visited for the 11th show on 1st August.

Texel - the island

Texel Island is about 25 km long by 10km wide and typically flat, except for the sand dunes on the NW coast. As Texel is the windiest place in the Netherlands, the sand dunes are a very welcome protection from the force of the wind for the (hundreds of) cyclists using the bike paths around the island. But it is also the sunniest place and is popular for that reason.

Texel Island received its Charter from Count Willem VI almost exactly 600 years ago. More recent history is interesting. Although the 2nd World War ended on 5th May 1945 in the rest of the Netherlands, it was not until 20th May that happened in Texel.



for their service with Germany was to resist. At 1 o'clock in the morning, it began. By early morning, more than 450 Germans had been murdered, mostly while they slept. The Germans from the mainland fought back and, over several weeks, took more and more territory from the Georgians until a last stand by the “Fire Tower” – the lighthouse at the northern tip of the island – ended the battle. More than 1000 Germans, Georgians and Texel islanders died.

The 150 year old lighthouse still stands and the bullet holes of the battle can still be seen on the walls. Now it is a visitor attraction because of the extensive views over the sea and neighbouring islands, and the huge sandy beach nearby.





It is also one end of the cycle path round the island. There is, of course, a café serving coffee with Dutch apple cake and whipped cream. Just the thing after a cycle ride.

Texel - the flight

A strict slot reservation system was in place for visiting aircraft on 1st August. I didn't book early enough to get a slot, so flew to Texel on the afternoon of 31st July. The route that I took from Fairoaks was via Biggin and then direct to Haamstede VOR; easy navigation and staying within 30NM of the coast. The visibility was reasonable, but hazy at 2000ft in the region of London TMA. It was much clearer at 6000ft over the channel. Even so, there was no horizon and the visual

field was almost empty, leading to slight disorientation except within sight of the occasional wind farm.

From Haamstede, I followed the coast northward to Den Helder. Class G airspace in the Netherlands is even more vertically constrained than the UK, with a maximum altitude of 1500ft along the coast, which is on the edge of both Schiphol and Rotterdam zones.

There are hundreds of acres of glasshouses to the SW of Rotterdam for intensive farming of tomatoes and other salad vegetables. The unmistakable Scheveningen pier is further north; it's the only pier along that coast. The story goes that Germans find the word "Scheveningen" very difficult to pronounce, so it was used as a test in

wartime to detect Germans trying to infiltrate the Dutch resistance. The Dutch North Sea coast is continuous sand dunes and long beautiful beaches, with the occasional beach resort such as Katwijk, Noordwijk and Zandvoort, with its motor racing track.

On approaching Den Helder, I asked for clearance to overfly De Kooy airport en-route to Texel, and then reported at the VRP at the end of the Texel access corridor. After that, the circuit routing was to the NE of the island, to approach via long final over De Cocksdorp to the large grass field of Texel (1015 x 40m main runway). Total time: 2h40m.

Texel - the airport

Texel is managed by a father and son team, Ed and Mike de Bruin. (photo) It is a busy airport, hosting a few commercial flights, sightseeing flights over the Wadden islands, parachutists, motor gliders, flying schools and GA visitors from all over the Netherlands and more widely in Europe. An air-ground radio service is the norm, although for the Air Show a much more strictly managed ATC service from the Dutch Air Force was in place to handle the large number of visitors safely.

As well as all the normal facilities, there is a hotel on site (not cheap but well appointed) together with a large terrace overlooking the grass apron and runway and the Horizon restaurant.



An aviation and wartime museum is open every day, with displays about the development of Dutch aviation and, special to Texel, the wartime experiences of the island. The airport is just north of the centre of the island, so an easy hour's cycle-ride from anywhere. Bikes can be hired there.

I flew in on Friday, which was not too busy. Even so, there were about 40 aircraft parked by the time that I arrived. On Saturday, the Air Show started at 1330, so there were many more arrivals in the morning – up to 50 per hour. In total, nearly 300 aircraft flew in of which only 5 were G registered.

After parking and pitching my tent (many people camped by their aircraft) I made my way to the Horizon Restaurant, at the Texel airport hotel. The restaurant has a typical Dutch menu, with generous and well-prepared dishes accompanied by, of course, chips with mayonnaise and Texel beer – an unusually flavoursome lager.

Texel is famed as one of the darkest spots in the Netherlands, ideal for stargazing. However, 31st July was a “blue moon” (the second full moon in the same month) and also a clear sky, so the brilliance of the moon washed out the Milky Way. The clear sky meant that it was quite cold, but all we campers were snug in our tents.

Texel - the air show

The show itself ran from 1230 to 1700. It was priced to encourage visitors, at €10 per adult and €5 per child and is the largest in the Netherlands. The last show in 2012 attracted 22000 spectators. As it was a sunny day, that number was probably exceeded.

There is little point in trying to describe an Air Show; let the photos speak for themselves. But it is worth mentioning the variety of the Programme and participants.

Overall, an enjoyable weekend and a great show. The Netherlands is always welcoming. The next Texel event is the 6th Texel Fly In on 4-5-6 September.

Texel made a very good 23 minute video of the event, which is on you-tube <https://www.youtube.com/watch?v=WVaMzoRT01w>



The Air Show Programme

Para jumping

Extra 330 LT. Hendrik van Overvest

Fokker Four. Fokker Four Foundation

Bolkow 105 (final display of this aircraft). German Army

North American B-25 Mitchell. Dutch Air Force Historic Flight

Red Devils. Belgian Air Force

Sukhoi. Frank van Houten

Boeing 707 E3A AWACS. NATO

Westland Super Lynx. Royal Navy

Patrouille Cartouche Doré. French Air Force

Truck Top Landing. Brendan O'Brien's Flying Circus

Lockheed C130J Hercules. USAF

Supermarine Spitfire MkIX. Dutch Air Force Historic Flight

Hawker Hunter. Dutch Historical Hunter Foundation

Royal Jordanian Falcons. Hashemite Kingdom of Jordan

Mil MI-24 Hind. Czech Air Force

Lockheed P-38 Lightning. Red Bull Team

Edge 340. Melissa Pemberton

Boeing AH-64D Apache. Dutch Air Force

Catalina Flying Boat. Catalina PH-PBY Foundation

F-16. Belgian Air Force



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Diamond Anniversary For Women Pilots



Pauline Vahey, BWPA chairman, is handed the 60th anniversary cake.



Bisma Pervez, who won a BWPA scholarship last year, with Tracey Curtis-Taylor.



Dorothy Saul-Pooley.

In a packed marquee with around 70 in attendance, the British Women Pilots' Association (BWPA) met to celebrate its Diamond Anniversary. The weekend-long event was held at White Waltham airfield, the site of the BWPA's first meeting, and the spiritual home of the Air Transport Auxiliary. **Pauline Vahey** reflects on the event.

Attendees showed a remarkable range of achievements. There were early and founding members of the BWPA; pioneers in flight and in various aviation and space fields; an astronomer; champions of the Air Transport Auxiliary and of the history of women in aviation; biographers and poets; and, of course, recreational and professional pilots both young and old.

Saturday was the main day for the conference, punctuated by air displays. The speakers were diverse in terms of achievement and personality, but every one of them had two things in common: passion for her subject, and modesty.

A Spitfire performed over the airfield during lunch and the afternoon concluded with Tracey Curtis-Taylor's incredible narrative of her adventures flying from Capetown to Goodwood in her vintage Stearman, and Dr Vivienne Lee's insight into the physical response our own bodies have to the ever-developing stresses and wonders of modern flight.

Most attendees returned later in glittering evening wear for the gala dinner. Emily Collett, from the British Aerobatics Team, performed a tremendous display.

Clare Walker spoke after the meal, exhorting us to continue to promote the role of women in aviation: Despite so many achievements in the field, we are woefully under-represented.

On Sunday, poor weather prevented the planned fly-in, although as Richard

Poad pointed out in his moving introduction to the women of the Air Transport Auxiliary, the current weather would not have stopped them!

The day's events were dominated by a focus on the ATA, as Richard Poad was followed by Candida Adkins's charming and personal biographical overview of her mother, ATA pilot Jackie Moggridge.

In the afternoon we were treated to the beautiful poetry of Alison Hill, whose project to commemorate the lives of the women of the ATA is being funded by the Arts Council.

Finally, author Midge Gillies gave us a fascinating introduction to the life of Amy Johnson, herself an ATA pilot, followed by Jane Priston's presentation of her work on the Herne Bay Project to provide a fitting memorial for Amy

Johnson's life and tragic death.

We gratefully acknowledge our many generous sponsors and the West London Aero Club for providing the venue for the weekend's festivities. Even with a day of poor flying weather, the BWPA Diamond Anniversary was a triumph of conviviality, entertainment, information and inspiration.

Clare Walker, exhorting us to greater equality in the air (and on the ground), spoke these perhaps surprising words: "Our long term goal has to be to wind up the organization." We dream of a day when a 'women's' association of pilots is no longer necessary. And as Dorothy Saul-Pooley so eloquently put it, "Courage and tenacity in the face of adversity... It's my belief, if you have drive, you will achieve your dream."

Below: the BWPA committee; Top left, Pauline Vahey, BWPA chairman, accepts a cake; top centre: ??? with Tracey Curtis-Taylor; Top right, Dorothy Saul-Pooley.





The European Round Robin

Tommaso Cruciani recounts the trip of a lifetime around Europe, with three Robins and eight pilots from Exeter Robin Group.

Since before the end of our Autumn trip, the planning for the Robin Flying Group's Spring adventure had been underway, driven by group leader Dermot and chief planner Tom, who created our ambitious route through Europe.

The plan would see us reaching Malta via France, Germany, Austria, Italy, Slovenia and Croatia to cover areas we were unable to see on our last trans-European journey. We had firm plans to touch down as far away as Tunisi on our way between Pantelleria and Sardinia, but the escalating security situation made us opt to remain intra-continental, with Malta an ideal turning point for our extended round-robin.

The final weeks before the launch date consisted of buying a new extended range 160hp Robin DR400 for the job, and receiving a 180hp one back from months of maintenance with little time to spare.

The final week was a frantic exercise in bureaucracy for the group leaders, but through their efforts we finally had three Robins legally ready for the adventure and eight pilots itching to fly them.

With some of us attending this year's GA Sea Survival Conference that took place near our home airfield of Exeter, we were extra careful in our preparation of the emergency equipment onboard. From life rafts to immersion suits, PLB's, spot trackers, grab bags, marine band radios and flares, we could not have been more ready to face any eventuality.

On the day of departure we were all at the airfield by 06.45 local, ready for departure as soon as the airfield opened at 08.00. With clear weather noted across The Channel, bags loaded and seating arrangements sorted so as to have one more experienced pilot in the front of each plane for the first few legs, we set off along the south coast, passing by the

NOTAM'd USS Theodore Roosevelt aircraft carrier towards Seaford VOR to make our crossing to Abbeville in France and clear customs. A quick pee stop – border agents nowhere were to be seen – and the formation was off again en route to Reims for fuel and lunch. The trip was well and truly underway!

The unexpected closure of the restaurant was met with famished grunts all around, but the friendly French refueler who kindly interrupted his lunch to ride his bike over and fill our tanks suggested we take a taxi into town, as there was nowhere else to eat nearby. With the shuttling back and forth to the restaurant, we realised our original night stop at Innsbruck was somewhat optimistic and re-filed the destination as Friedrichshafen.

Friedrichshafen airfield, site of the yearly AERO trade show, lies in a TMZ where Mode S is required on board, so we resolved that since only one of our three Robins carried such swish equipment, he would lead the formation, squawk for the group and thus allow us into the airspace.

The fantastic weather and easy-going German ATCO's made for a stunning evening approach over Lake Constance as the formation used a designated chat frequency and walkie talkies rigged to the headsets to discuss whether to take separate landing clearances as we are used to doing in the UK. The tower resolved our doubts in typical succinct German fashion, "follow ze leader!"

Breakfast the next morning was the time to gather and check the weather for our much anticipated and researched Alpine crossing to Innsbruck. The winds have to be just right in order to have safe passage through the valleys, as anything more than light winds can create serious localised wind circulation that can be difficult to contend with in such small aircraft.



Vaporetto ride into Venice.

Skydemon's brilliant GAFOR route visualisations through the Brenner pass provided excellent information for the day's flight. Pass-by-pass, the formation of three worked its way through the Alps, always making sure not to turn into a blind alley and to approach each ridge at less than 90 degrees, in order to allow for a turn away from the ridge in case of downdrafts.

The weather could not have been more forgiving, allowing each of us to enjoy the spectacular views on a fairly relaxed flight. Turning down the final valley into the Innsbruck circuit, the tower advised us to pack closer to the north side of the valley to allow a Thompson Boeing 757 to scoot past underneath. For all our hard work, our arrival earned us a "thank you for your professionalism" from ATC, as we parked up alongside the troupe of posh private jets lining the apron.

With Venice awaiting us, we departed Innsbruck in glorious sunshine and set route to exit the Alps onto the northern Italian plains to the south. The sprawling controlled airspace forced an earbusting descent from FL90 in The Alps to under 2000ft within a few minutes, and the more old-school, ICAO-format Italian RT challenged the uninitiated pilots among us; but we all made it to Aeroporto Venezia-Lido unscathed and in good time for lunch.

This ideally situated grass field on the Lido island across from Venice dates from 1909, with one of the few remaining examples of a characteristic 1930's architectural style terminal. A 10-minute scenic vaporetto (essentially a public water bus) ride from the Lido took us across to the center of Venice for some obligatory afternoon tourism and a well-deserved cold beer... or two.



Venice Lido's 1930s terminal.

The following day was to be an ambitious and equally scenic one, with the landscape below us changing dramatically from the previous day's snow-capped peaks to Caribbean-like Croatian shorelines. Leaving the Italian FIR over the Adriatic sea and entering Slovenian airspace we anticipated the popular hospitality that we knew awaited us at the friendly airfield of Portoroz. On landing we were pleasantly surprised by the presence of a Robin tow bar to position us for refueling and a selection of Vodka shots that we regretfully but politely refused.

Taking off all too soon and setting course southwards along the length of the Dalmatian coast for the small island of Losinj, we were rewarded with some of the most stunning

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coastlines Europe has to offer and for once we all wished we were on the ground, diving into the dream-like azure waters. The curiously themed El Paso Mexican restaurant on this secluded airfield was undergoing renovation and for once we were truly stumped, as there was no other option for food or water until the next airfield a couple of hours away. As the only customers for miles around we did not hold much bargaining power, but with some gentle persuasion the kitchen agreed to provide us with a 'small snack' for the road. Sat at the table, we were surprised with a bounty of fried calamari, sun-ripened tomatoes and chips. Incredulous at the sudden turnaround in our luck, we made a veritable feast of our 'small snack' and re-planned to skip Split and make straight for Dubrovnik for the night.

The leisurely flight into Dubrovnik was a pure delight and any consternation we might have felt at landing at a big international airport was soon dispelled by the fact we were the only airplanes there! Only one week later and the season would have started, with airlines from all over Europe unloading the legions of tourists who invade Croatia during the summer. The quaint but unassuming restaurant we chose for our evening meal in front of the citadel's ramparts proved to be one of the best of the trip, and by the end of the wine-imbibed evening we were well and truly ready to sleep. I retreated to my youth hostel and met with the only other guest in the bunk across from mine, a solo Japanese backpacker who had a hard time believing that I was flying myself around Europe, and yet staying the night in a hostel!

The next morning, we awoke to yet another clear, crisp day. With renewed energy and enthusiasm we set for the airport to prepare for the sea crossing to Bari in Southern Italy. Up until this point, things had been almost too good to be true, with every obstacle comfortably surpassed. Little did we know this day would hold some of our first truly eye-opening challenges, teaching us lessons that cannot possibly be learned in flight school or a local flight around the patch; there is no substitute for experience.

Arriving at Bari

Arriving easily into Bari, problems began with the confusion during the taxi to the parking spot, which saw Robins shoot across the apron as a hesitant Ryanair jet looked on and follow-me vehicles scrambled to intercept our meanderings across the tarmac. It turned out they wanted us parked on a tucked away stand across the other side of the airfield rather than on the GA apron right in front of the FBO – makes total sense.

Received by the exceedingly helpful handlers, we settled into the plush passenger lounge and reviewed the onward weather to find grisly storm clouds painted on the iPad satellite weather radar. A quick call to our next stop at Scalea on the Southwestern Italian coast confirmed the deteriorating weather situation, so we began the search for an airfield to the South

of the Apennines, figuring they would halt the onslaught of the storm fronts coming from the North. Unfortunately, Southern Italy and Sicily are infamous for their lack of Avgas facilities, with the fuel pumps few and far between. Italian GA has predominantly moved onto lighter aircraft utilizing



Two Robins brave the Alps.

engines such as the ubiquitous Rotax 912, with Mogas the preferred propellant – hence part of the success of Tecnam machines. A few Aeroclubs stock their own Avgas, a testament to Italian DIY solutions to inadequate aviation infrastructure, but purchasing some is an exercise in diplomacy. It's not what you know, it's who you know...

Eventually, we resolved to fly along the Southern coast, the so called 'boot' of Italy, protected from the storms by the Apennines and land at Reggio Calabria for fuel. The flight proceeded

uneventfully until we reached the last headland before our approach. There, a mixture of miscommunication and inexperienced decision-making led the formation to cross what some of us regarded as the foothills of the innocuous looking mountains. All of a sudden and with no warning, severe gusts snatched our tiny plane, sending it soaring to one side and then the other, first up and then down, until a particularly vicious downdraft caught us and began pushing down as we hit full throttle and pitched up to best climb attitude. The

plane was difficult to control and I must admit there was some strongly explicit stress in the cockpit as we struggled to maintain altitude with little time to worry of the whereabouts of our other two companions. We turned towards the coast and the descending terrain to escape the silent but malignant mountain wave that had caught us off guard until, as suddenly as it had appeared, the turbulence stopped and all was calm again.

Once safely regrouped on the ground everyone had their own tales of battle to recount, with one plane having experienced the antithesis to our own formidable foe and been sucked up into a cloud by an equally powerful updraft. The third member of the formation, while escaping the mountain wave unaffected, was faced with the attempt by the Reggio tower controller to provide them with their own measure of adventure in the form of an ill-advised orbit on short final. In the terminal, the reams of paperwork that I had to complete in Italian for the group gave me ample opportunity to practice my negotiation skills and witness the comical but strangely endearing (to myself at least) Southern Italian bureaucratic mazes and slow pace of business.

A quick snack lunch later and we had recomposed ourselves ready for the sea crossing from Italy to Malta. While

Morning planning at Friedrichshafen.





Approaching the airstrip of San Teodoro.

the winds had picked up and Malta was forecast as having stiff gusts, the choice of runways gave us confidence that we would land somewhat into wind and, worst case scenario, we had plenty of fuel to make a return to several mainland Sicilian airfields.

Departing Reggio Calabria, we could just make out the mighty Mount Etna shrouded in cumulus to the West, it really looked as if it was erupting! Further into the leg, the scraggy white caps below gave us reason to reflect on what a possible ditching might be like, however we had to put that out of our minds to prepare for the busy arrival and aid one of our group in a concern of their own. The group leader's aft port luggage hatch had come unlocked, with only the slipstream holding it down. There was a worry that it might open and come off as we landed in the gusty conditions in Malta, precluding our usual quick succession landing technique to leave space for such an eventuality.

Maltese crossing

Luckily, the trusty Robin hatch stayed on despite a distinctly sporty approach and landing and we could breath a sigh of relief after a long, demanding day. Ready for our end of the day beers, our coincidental remarks of what a pleasure it would be to be received by the Maltese hospitality towards the English were short-lived. The authorities who received us at shutdown, rather than welcome us to their island, took great satisfaction in immediately informing us of the base cost of 200 euro per plane excluding VAT, landing, and other necessary handling fees. To our great

consternation and despite our

reluctance arguments ensued, with clear confusion at how the ramp could be full of other GA aircraft who clearly were not paying upwards of 300 euro each time they landed. We were in a bind, as there were no other available handlers and we felt we were held hostage by our need for fuel. Luckily, after a couple well-placed calls by Tom and some skillful negotiation by Dermot, Air Malta agreed to handle us all for the price of one. We could not have been luckier, and the flag carrier truly exceeded our expectations in coming to our rescue and handling three wood-and-fabric airplanes in and amongst their large fleet of modern Airbuses.

"The truly idyllic place was equalled by the strip owner's kindness in lending us his jeep for a ride into town for lunch under the sun."

For three days we were held on the island by wind and took the opportunity to rest and visit the salient sights, including the daily canon firing to commemorate the war. It was enough time to see most of the island and by the end we were eager to take to the air again. From Malta, we routed to Palermo's GA airfield of Bocca di Falco, one of the few in Sicily selling Avgas to the public. There, chatting to the aeroclub's CFI, there was a general feeling of disenchantment in the club as few young people signed up to learn to fly and consequently, there was little energy and resources for more

adventurous undertakings. The stark contrast between our activity and that of this picturesque, well sited but quiet club made us feel truly fortunate about the opportunities we have.

Leaving an old-world Palermo behind, another very long sea crossing awaited us from Sicily to North Eastern Sardinia, with a direct routing possibly precluded due to extensive military danger areas across the Tyrrhenian sea.

Once in the air and in range of Rome Information frequency we were informed that the danger areas were all cold and altered course direct to the short grass strip of San Teodoro, on the stunning Costa Smeralda. The approach along the Sardinian coast almost topped that through Croatia in natural wonder, with the turquoise waters and small bays the stuff of dreams.

Landing at San Teodoro

The landing at this enchanting 500m strip, however, soon had our full attention as we made a low approach and go around to check the conditions. Unable to spot any issues, we each made a successful landing and parked up next to the owner's house as he came out to greet us. He apologized for the uncut grass that had painted our spats and prop tips as we unloaded and admired the incredible location by the water's edge.

The truly idyllic place was equalled by the strip owner's kindness in lending us his jeep for a ride into town for lunch under the sun.

The quick deceleration on landing gave us cause for concern, however, as the long grass, calm wind, warm temperature, short strip and water at each end of the takeoff run posed a chain of noteworthy threats to our laden Robins. After watching a microlight lift off in what looked like an inspiring 75m we resolved to pace the length of the strip, observing the best track to take across the grass and briefing the short-field technique as well as marking out a decision point where, if sufficient speed had not built, we would abort the takeoff. Myself and Dermot in the lead in the lesser powered 160hp Robin would depart first to demonstrate the feasibility. A short taxi to the threshold and we performed a rolling takeoff, weaving between the tallest patches of grass for what felt like an eternity; decision point come and gone,

ASI checked, controls responsive, we finally struggled into the air as the edge of the water fast approached, making an immediate and shallow turn into the few knots of headwind to find some lift and climb away into the overhead and wait for the rest of the formation.

Circling above, we held our breaths and watched the other two 180hp Robins trundle down the field and lift off successfully. Another worthy lesson learned that day: safety margins are essential!

The route across the spine of Corsica introduced us to a new and awesome landscape, as Mediterranean coastlines were set against a backdrop of wild, lawless mountains whose snowy peaks rose into the flight levels. We spent the evening in the charming town of Calvi and set off the next morning for the Côte d'Azur, landing at Cuers. This half-military airfield seemed a true Mecca for Robin aircraft types and a frequent stop-over for trans-European travelers such as ourselves on their way to Corsica.

From Cuers, we routed Westwards down the standard VFR corridors along the French Riviera, admiring yet again one of the most beautiful coastlines in Europe from less than 1000ft. The low flying was pleasantly slowed down by the Mistral blowing down the Rhone river delta and across the Camargue. This natural reserve is an impressive wetland to fly over, and with the large flocks of pink flamingoes passing by underneath our wings it truly felt like we were in one of Attenborough's finest episodes.

Stopping briefly at the quiet airfield of Albi, we made our way to Bergerac for the night. In the morning, we were greeted by low cloud and drizzle, which held us on the ground for a few hours before a respite in the visibility allowed us to set off for Dinard, our final customs airfield before returning to the UK. Making our way Northwards across the vast French countryside we eventually found ourselves scud-running in the vicinity of Nantes and were pushed down far enough to require a diversion to La Baule along the Loire river. Refueled, caffeinated and paid up we departed for Dinard, where an incredulous English Ryanair pilot who had seen us in Malta a couple of days earlier sent his best wishes across the airwaves.

Back in Exeter for a sunny Spring



Heading home!

afternoon brew we reflected back on the past nine days with near disbelief at how much we had accomplished on our epic adventure. A group of average VFR private pilots had flown our trusty single engine, fabric-covered planes around Europe and back, overcoming every obstacle in our way and having one hell of a good time, all at relatively modest costs. We discovered the varied realities of pilots like ourselves throughout Europe, all with the same passion and objective. With no autopilots, deicing or other fancy equipment, we understood the true spirit of grassroots flying. The group became a team, with the whole skill-set being much more than the sum of the individual members. Perhaps,

the biggest lesson to take away was that while some of us may not have undertaken some of the flights on their own, the fact that we went ahead successfully is not a testament to hard-headedness but a credit to teamwork. For myself, building hours towards a commercial license, I can confidently say that what should be mandated are not hours, but experience building through set tasks that increase the skill level of a pilot who needs to push beyond his comfort zone. Any airplane is an incredible machine that affords us the privileged opportunity to see our varied and fast-changing continent from above, so never stop exploring!

The team - names?????



Biggin Hill celebrates BoB 75th

Sunday August 18 1940 known as 'The Hardest Day' was a pivotal turning point in the Battle of Britain. For months previously Hermann Goering had been advising the German High Command that it was just a matter of time before his Luftwaffe cleared the RAF from the skies above south eastern England. Robin J Brooks, of the Biggin Hill Heritage Hangar, explains.

On this particular day a combination of Luftwaffe aircraft lost and the fact that it was the last operation in which the Ju87 'Stuka' was used over the UK due to its vulnerability and losses, proved that the RAF was far from beaten. His ambitions were dashed.

Early in 2015 Peter Monk and I discussed the possibility of commemorating a particular period of the battle in a way not seen in the UK since the ending of the war. Over a few months we formalised a plan to fly as many Spitfires and Hurricanes as could be mustered in a tribute to those gallant airmen and in particular, to the sorties flown on August 18, 1940.

With Biggin Hill Airport coming on board to take over the administration duties, the owners of most of the Spitfires and Hurricanes in the UK were contacted and were told of the plans. The date chosen was Tuesday August 18, 2015 and the aircraft would fly to as near as possible to the times that Nos. 32 and 610 Squadrons lifted off from Biggin Hill to protect the airfield from the enemy. It would take meticulous planning but with determination, the commemoration of that day would be the best possible that Biggin Hill and the heritage hangar could provide.

Fine weather prevailed as the aircraft began to arrive from early dawn. From the heritage hangar came Spitfires Mk IX TA805 and MJ627. In addition Spitfires Mk VC EE602, Mk XVI TE184 and RW382 and Hurricane P2921 making the collection the greatest contributor. The BBMF sent their two Hurricanes PZ865 and LF363 together with one of the Spitfires whilst the Fighter Collection flew Spitfire Mk 1A AR213, Spitfire Mk

V EP120 and Spitfire Mk XIV MV268. Hurricane XII P3700 and Spitfire Mk VB BM957 were from the Historic Aircraft Collection with Peter Teichmann flying Spitfire Mk XI PL965. Further Spitfires came from the Old Flying Machine Company in the shape of Mk IX MH434 with the Hurricane R4118 of Peter/Polly Vacher making a rare appearance. The Boulton Spitfire SM520 together with Spitfire ML407 and Seafire Mk III PP972 from Richard Grace and the Meiermotors GmbH Spitfire T Mk IX MJ772 and Spitfire Mk VIII MT928 completed the proposed line-up. In addition the Hurricane IB Z7015 from the Shuttleworth Collection arrived to join the formations whilst Spitfire RR232, now housed in the heritage hangar, was a reserve aircraft. Not wanting to miss the fun, a Mustang flew in to make the Rolls Royce Merlin engine component complete!

Once airborne the aircraft broke into three waves with one covering Portsmouth and the Isle of Wight, the second the airfields of Kent and the third to Dover and the White Cliffs. After landing back on at Biggin it was a flight-line walk with the veterans and photo opportunities for the 3,000 public who arrived to view the spectacle. Media coverage was the best ever with satellite dishes everywhere beaming it directly into radio and TV channels. What began as a spark of an idea blossomed into something fantastic, a day which will be remembered by everyone involved. However, plans are already being formulated for a spectacular Remembrance Sunday event in November.



The Airfield Experience

Freddie Sheppard, 15, spent his work experience based at Redhill Aerodrome helping to put together this issue of *Aircraft Owner & Pilot*.







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Book Reviews

Freedom in the Air

by Hamish Ross

A Czech flyer and his aircrew dog

Pen & Sword Books : £14.99

ISBN 978 1 47383 4361

This is an unusual book and not precisely what you might expect from the title. It is not about the freedom that a pilot might gain from flying, for the subject of this true story was not a pilot; he was an air gunner and the freedom was one of release from the tyranny of his homeland and the opportunity to fight for the moral and political values of the west.

Vaclav Robert Bozdech was a captain in the Czechoslovak Air Force. He made his way to Britain to become one of 3,500 Czech and Slovak airmen who served with the RAF in WW2. 88 were pilots in the Battle of Britain and eight were killed; their ace of aces was Sergeant Josef Frantisek who was credited with shooting down 17 enemy aircraft in six weeks. Four entirely Czech squadrons were formed and Bozdech served on operations with No.311, equipped with

Wellingtons. (Incidentally, the Spitfire now in the Shuttleworth Collection was on the strength of No.310, one of the other Czech units then based at Duxford).

The main hero of the book is not Bozdech himself, but his Alsatian, Antis. Man and dog had an exceptionally strong bonding and, following lengthy negotiations with bureaucracy, Antis was given official authority to fly on operations as aircrew. Twice he was wounded by enemy shrapnel and he became famous with the Award of the PDSA Dickin Medal – often known colloquially as the Animals' VC. He survived to be his owner's close companion for thirteen years.

Later, Bozdech retrained and remustered as a signaller and in this capacity flew in Liberators, mainly on anti-submarine patrols. Antis was unable

to fly on these as often they were sorties of twelve hours duration. Subsequently Bozdech served on several RAF stations and finished his time as a flight lieutenant. After the War, he returned to his homeland; unfortunately the Russians had reached Prague before the Americans in its release from the Nazis, so those bold and freedom-seeking Czechs who had served alongside the British were subject to strong suspicion. Bozdech's situation was especially difficult as he had written books and given talks that were openly critical of the Communist Regime. The restrictions were so severe that many, including Bozdech and (with considerable difficulty) Antis, returned to England to rejoin the RAF. The details of the escape alone warrant serious reading. On return to the UK, though, all were required to start again from scratch and all were enlisted as Aircraftmen (throughout the book incorrectly called Aircraftsmen) before eventually beginning to re-climb the promotion ladder. On this second round, he was not commissioned again, retiring with the status of Master Aircrew – the equivalent of a Warrant Officer.

At the age of 14, Antis died; in view of his past and his fame, his story was published in seven countries, followed by a book devoted to his life. His Dickin medal had been presented to him by Field Marshal The Earl Wavell of North African campaign fame and, today, Antis has an imposing gravestone in the Animal Sanctuary at Ilford in Essex.

Bozdech endured two strokes and cancer before his death in 1980; shortly after which some form of democracy was reintroduced in Czechoslovakia, enabling his posthumous promotion to Colonel in the nation's Air Force. By this time his two sons were in their respective countries' services, Robert in the Royal Tank Regiment and Jan in the army of the Warsaw Pact. A more complicated series of national political hiccups would be difficult to create, but detail is irrelevant here.

This book, though, makes clear the extent of wartime and post-war suffering endured by Czechs and others fulfilling their roles in the overall search for freedom.

David Ogilvy

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Eyes Turned Skyward

by Max Meyers

Mission Aviation Fellowship UK

ISBN 978-1-905991-43-3

The excellent work carried out by Mission Aviation Fellowship – a Christian charity operating in some of the most remote and inaccessible places in the world – has been described in an earlier issue of this magazine. In this book we can read in more detail about some of the specific tasks that are carried out.

From a very early age Max Meyers was enthralled by the desire to fly; initially he achieved his aim by joining the Royal Australian Air Force, in which he served as a pilot for seven years, flying, inter alia, Meteor F8 jet fighters. Throughout his life he has walked ‘with eyes turned skyward’, but very nearly losing that life in an over-zealous attack in an army co-operation training exercise, which led him to learn from the experience and fly in a more mature manner – a situation common to many young Service pilots.

Following those youthful days the author spent thirty seven years with MAF and many of the tales in the book relate to activities in and around Papua New Guinea. Most of the tricky work was carried out in various single-engine Cessnas, operating from small airstrips, many hacked out in difficult terrain, surrounded by – or in some cases created, half way up – sharp mountains; in these areas the weather could change drastically and very quickly. The work ranged through carrying local people in urgent need of medical attention, bringing essential provisions to otherwise isolated communities, moving missionaries in their endless task of converting the nationals – some of whom were cannibals – to Christian principles, and even taking a couple of almost fully grown heifers to new pastures at an agricultural school. In some cases the work involved face-to-face contact with naked spear-armed warriors who were seeing a white person for the first time.

Add to this the conditions in which these pilots and their families lived and perhaps we can begin to understand the overall scene. Although the book relates mainly to the tasks carried out by the pilots, many others were involved: aircraft engineers, radio operators and often hard-working wives who carried out many key tasks in the overall commitment.

It would be self-defeating to relate in detail all the work carried out, but there is one amazing operation that I cannot resist reporting. A MAF Cessna 185 had a total engine failure at 9,000 feet among some of the most inhospitable territory imaginable. There was nowhere suitable for a forced landing, but the pilot called to say that he would be putting the powerless machine on a narrow bank alongside a river running between two high mountains. The author knew this rugged area and considered that a safe arrival would be impossible, yet soon the downed pilot called to say that he and the aeroplane were safely on the ground with only a slightly damaged tailplane and a flat tyre!

So far, so good, but how was the aeroplane to be retrieved? There was no access road and no heavy haulage equipment, so the only way was to use the fast flowing river. A team of three MAF people and 21 locals undertook a dangerous journey, through many rapids, using three canoes with single-cylinder outboard motors.

Heaving by hand, the Cessna was lifted and placed with the main wheels on the two largest boats and the tailwheel on a smaller canoe. The journey back was an even more noteworthy trip than the outward venture. The party arrived at a spot where there was an airstrip alongside the river, where they offloaded their valuable – and much needed – cargo. The strong national men were so elated that they lifted the aeroplane and ran with it for the length of the strip and back.

The 185 received a new Continental engine and the necessary airframe repairs and within a week it was back in service. This and many other true stories make the book very readable; Max Meyers writes very well and keeps everything moving. As a charity MAF does not charge a fixed price, but will send a copy in exchange for a reasonable donation. The address is: Mission Aviation Fellowship UK, Castle Hill Avenue, Folkestone CT20 2TC. The telephone number is 0845 850 9505 and the email is supporter.relations@maf-uk.org. I recommend the book and its aims – strongly.

David Ogilvy

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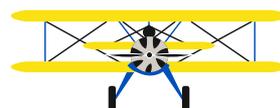
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My flight...

Carol Cooper



CFI at Andrewsfield, examiner, 23,000 hour pilot, AOPA member for 30 years.

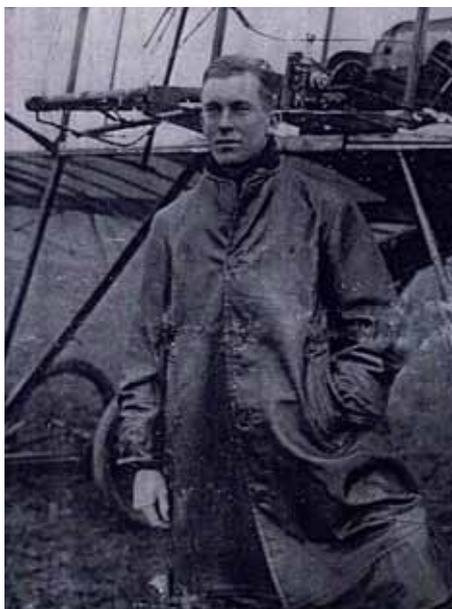
Where did my love of flying come from? Well, my grandfather was a First World War pilot of some renown, being a test pilot on Felixstowe flying boats, and was also credited for sinking a U-boat. Plus he was awarded the AFC and DFC.

So, It must have been from him that I got my love of flying, because no other members of my family have the slightest interest in aviation. As farmers, they like to keep their feet firmly on the ground.

My grandfather was also involved in the design of a very early monoplane, the Cooper Travers Hawk. Unfortunately it was ill-fated, killing a very close friend of his. Sadly, this caused my grandfather to give up aviation. He died in 1978 and never knew I got involved with flying.

First flight

My first flight in a light aircraft was in 1980 when a friend's father offered to take me up. Due to a knee injury he was unable to fly, so an instructor took me up instead for about 20 minutes. That instructor was Eddie Ford, who is still instructing and we still get to fly together on occasions.



Carol's grandfather, A.Q. Cooper, AFC, DFC. had a distinguished flying career.



Carol is still teaching and examining at Andrewsfield and elsewhere (Stapleford for example) and evidently loving every minute of it. She mainly teaches and tests CPLs now but misses doing more basic training, "as that has always been the most fun."

That first flight was like a drug - and nearly 23,000 hours later I am still addicted. I just had to find ways of getting money to go flying.

In those days it was £36 an hour, but for me it may as well have been £360. I didn't have money to go flying, so I saved enough for 20 or 30 minute lessons and flew when I could. So it took until 1983 to finally get my PPL.

Strangely, having the ink still wet on my licence, nobody wanted to go up with me. My friends suddenly became very busy, and my family definitely declined!

At some point, an instructor course was mentioned. I had never thought of myself as a teacher, but I couldn't imagine anything better than getting paid to go flying. Was I good enough? Well, thanks to lessons with the late Dick Fox, by 1987 I had achieved my FI rating. Instructing at Andrewsfield started straight away, and what can I say, 28 years later I am still instructing there as the

CFI. I am also proud to sit on the AOPA Flight Instructor Committee.

Job satisfaction

For me the flying, and the people I have met over the years, have led to a career that still gives me huge job satisfaction.

At present I train instructors and test for the Flight Instructor rating. I also teach and test for the CPL. However, I am sorry I am not teaching many beginners, as that has always been the most fun.

I am often asked "Why didn't you go to the airlines?" I had offers, and I thought about it long and hard but decided not to. What is so good about the airlines. The money? - maybe, but the lifestyle was definitely not for me.

All I can hope is that I stay fit enough to keep flying, and I hope I pass on my enthusiasm and love of flying to the people I fly with.

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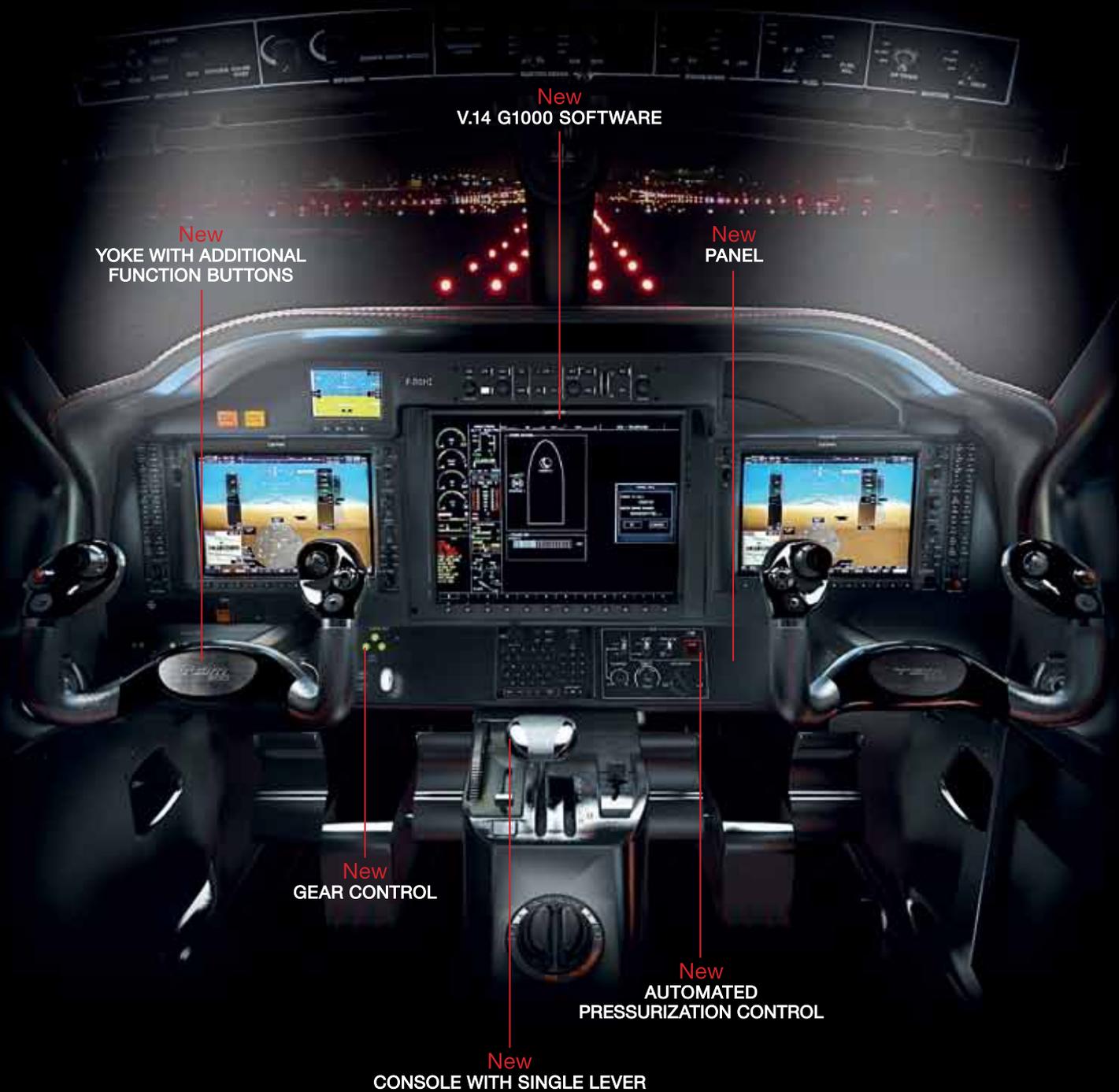
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