General Aviation

APRIL 2013

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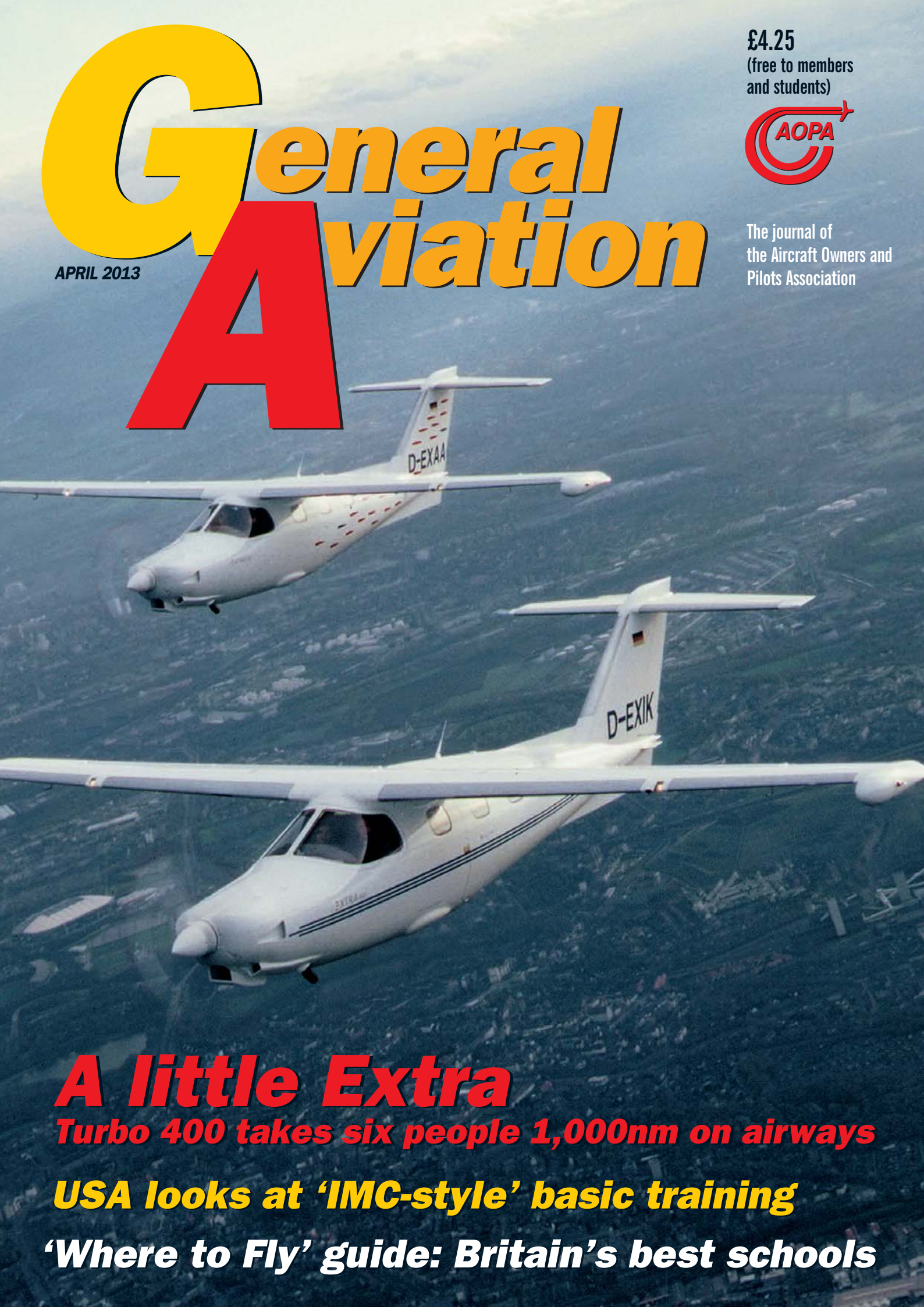
The journal of the Aircraft Owners and Pilots Association



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General Aviation
April 2013

Editor and publisher: Pat Malone
Contributing editors: David Ogilvy, Steve Copeland

Published by: Fairweather Media Ltd, The Studio, Kettys Close, Withiel, Bodmin, Cornwall PL30 5NR. Tel: 01208 832975. Fax: 01208 832995

Advertisements: David Impey, Head of Advertising, AOPA UK, The British Light Aviation Centre 50a Cambridge Street, London SW1V 4QQ +44 (0) 207 834 5631 +44 (0) 7742 605 338

Design: David Tarbutt
Printing: Holbrooks Printers Ltd

Articles, photographs and news items from AOPA members and other readers are welcome. Ideally they should be on a disk, or they can be emailed to *pat@richmondaviation.co.uk*. Photographs may also be emailed to this address. They should be high-resolution (300DPI). Alternatively, hard copy and photographic prints or slides can be posted to Fairweather Media Ltd at the address above. While every care is taken with submitted material, we cannot make absolute guarantees that material will be returned in perfect condition.

Material for consideration for the June issue of *General Aviation* should be received by 1st May, 2013

Published by AOPA, which is a member of the International Council of Aircraft Owner and Pilot Associations.

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Front cover:
Extra 400
Photo: Extra aircraft

Chairman's message

Bureaucracy – the enemy?

The definition of bureaucracy, from dictionary research, has expanded over the past couple of decades beyond "government by officials" to include "administrative procedures that are too complicated", which in general aviation circles is probably the one that is most appropriate. "Red tape" and "gold-plating" are also familiar terms meaning roughly the same thing, the former often applied to government departments and the latter when it's the CAA in the spotlight.

Bureaucracy is certainly a drag on conducting a successful business and the government's Red Tape Challenge initiated soon after taking office is aimed at this target. Any maintainer of light aircraft will testify likewise, having been put through the mangle that is EASA Part M. Those that have survived the process over the past decade have needed to pass on the costs of extra administrative procedures to their customers, namely, aircraft owners and pilots. This is not the same as saying that regulation is unwelcome; back in the 1930s the need for regulation was recognised for passenger safety and that of the public at large to be relatively assured. And the cost of regulation is worth paying for, but only as long as it is proportionate to perceived risk. Part M has been seen to be clearly disproportionate as far as GA aircraft are concerned, and it is only relatively recently that EASA has recognised this by using a task force of experts to introduce sensible alleviations to the existing requirements.

EASA Part M, as a regulatory system, seems to have been assembled from a multitude of individual requirements without conforming to a proper design specification beyond the simple (or simplistic?) aim of achieving a 'high, uniform level of safety'. It is all encompassing, such that the regulations for GA form a subset of those for Commercial Air Transport. Apart from the physical laws that govern flight, there is actually not much common ground between GA and CAT. The operational airspeed and airspace regimes are mostly separate and the levels of engineering and technical sophistication are widely different. It would have been better to have started from scratch when tackling GA, as had originally been intended with the erstwhile Part M 'Lite'. Although this might be stretching an analogy too far, the philosophy behind the all-encompassing Part M is like designing an Airbus A380 and hoping that something like a Cirrus SR20 can be assembled from a selection of A380 component parts. The most efficient way of achieving a desired end product is to start with a proper spec.

One of the latest worries for GA to emanate from EASA is the set of regulations regarding Approved Training Organisations. This follows the philosophy above, although at least in the documentation applicability to 'non-complex' organisations (20 or less full time equivalent staff) is indicated, but not altogether without ambiguity however. As with Part M, it is up to the European country NAAs to interpret the regulations and ensure that they are adhered to. To many owners and operators of flight training organisations in the UK, noting that the majority are RFs - Registered Facilities, subject currently to the minimum of necessary regulation - the EASA AMCs and GM (Acceptable Means of Compliance and Guidance Material) look frightening. Mention of Safety Management Systems, Safety Managers, Accountable Managers and so on seems excessively bureaucratic from the point of view of a small business that has been conducting flight training safely and successfully for many years.

EASA is the source of the problem, but European legislation trumps national law, so the effectiveness here of the government's red tape challenge is doubtful. However, the UK CAA can play a part in making a difference and we are fortunate in this country that our safety regulators recognise the need for prior consultation, with sensible regulatory assessments at the right time, in seeking proportionate regulation. Consultation with industry is vital if extra costs are to be minimised and business failures avoided. AOPA UK can make a significant contribution here in achieving the right balance as its Corporate Membership includes many ATOs and a larger number of RFs and it can, to a large extent, reasonably represent their views.

The majority of AOPA membership consists of pilots and aircraft owners and, although the initial flight training to gain a pilot's licence may be a distant and hopefully pleasant memory, there is a danger that FTOs and flying clubs who provide the additional flight training, rating renewals, differences training, etc. to all GA pilots could all become more costly and possibly less accessible. Thus, it is clear why AOPA is a major stakeholder in this issue and will continue to fight unwelcome bureaucracy on this and other areas, both in the UK and in Europe through IAOPA.

George Done

America introduces 'IMC' syllabus

America is introducing a basic instrument training syllabus similar in part to the UK's IMC rating in an effort to improve general aviation safety, just as Europe is working to kill off the rating in Britain.

The US syllabus is still being finalised, but it will be called 'VFR into IMC' and will teach VFR pilots how to keep control of their aircraft on entering IMC, and how to get back onto the ground using whatever instrument approach is available. It will not, however, confer additional privileges on the holder, the advantage which has induced more than 30,000 UK pilots to take the IMC rating in the last 40 years and thus made an inestimable contribution to GA safety.

Around 50 percent of American PPLs have Instrument Ratings, compared with less than three percent in the UK, largely because while the flying requirements for the FAA Rating are just as exacting, the theoretical knowledge requirements are far more realistic and sensible. But that still leaves around half of all FAA PPLs with a hazy understanding of IMC and few learned skills for dealing with it. What's more, U.S. statistics indicate the VFR-only PPLs aren't the only ones getting into trouble; about one-third of VFR-into-IMC accidents involve IR pilots, which suggests that they weren't proficient at flying instruments, the aircraft wasn't equipped for instrument flight, or both. During an address to the International AOPA World Assembly in Tel Aviv in 2010 John King, co-owner of world-renowned pilot training operation King Schools, remarked that whenever the weather closed in, particularly in the Pacific North West, he would expect to hear about accidents arising from continued VFR flight into IMC.

Bruce Landsberg, President of the AOPA Foundation's Air Safety Institute, was at that conference, where he also heard about the efforts of AOPA UK to save the IMC rating, which EASA wants to kill off because it does not lend itself to harmonisation across Europe. Few people outside the UK had heard of the IMC rating, but after studying the way it operated and looking at the related accident statistics, Landsberg decided that something similar could make a worthwhile contribution to improving the GA accident rate in the United States.

The result is the 'VFR into IMC' syllabus, which will be accompanied later this year by an interactive online course. The syllabus unashamedly draws from the IMC rating to teach American pilots how to stay alive in IMC. It includes ground training on the nature of IMC and how it develops; how to recognise and react to the onset of IMC; the interpretation of weather forecasts; designated alternates, minimum safe altitudes and exit strategies; how to communicate with ATC after inadvertent entry into IMC (declare an emergency); limitations of ATC radar, and how to respond to radar vectors; considerations when choosing alternates; and instrument landing systems.

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The flying portion of the course begins with the basic scan and instrument interpretation and moves to straight and level flight, slow power changes and standard rate turns before taking a whole section from the IMC rating course on recovery from unusual attitudes. It goes beyond the IMC rating in calling for stalls, power-on and power-off, under the hood, and in teaching correct responses when IMC is encountered at night, both in the →

EASA 'makes case for the IMC rating'

The case in favour of retaining the UK IMC Rating has been made by EASA itself with an analysis of the top five safety threats to general aviation, which includes controlled flight into terrain in bad weather and loss of control in IMC.

How EASA can square its determination to kill off the IMC Rating in the interests of European harmonisation with its own appraisal of the most pressing safety concerns facing GA is an interesting topic for debate.

EASA and the European Union have jointly identified the top five safety concerns in a 'roadmap for regulation of general aviation' which raises more questions than it answers. Addressing their concerns would not seem to be a matter of regulation, and in some cases EASA's rulemaking could be seen as reducing safety, particularly in the case of flight in bad visibility.

The top five concerns are:

1. Loss of control in visual meteorological conditions. These are basic handling issues, typically stall/spin accidents.
2. Controlled flight into terrain, typically a non-instrument rated pilot scud-running in worsening weather ending with hitting the ground or an obstacle.
3. Low altitude aerobatics or buzzing.
4. Loss of control in instrument metrological conditions – often similar to the poor weather accidents in item 2 except that to avoid CFIT the pilot elected to climb into cloud where he lost control.
5. Forced landings due to pilot error, most often caused by running out of fuel.

AOPA is concerned at how EASA reconciles its list with its actions, notably on instrument flying qualifications. AOPA is fighting to retain the IMC rating, which has saved hundreds of lives in the last 45 years and is seen as being partly responsible for the UK's exceptional GA safety record. It successfully addresses concerns 2 and 4 with a training course of a minimum of 15 hours which teaches the low-time pilot to maintain control in IMC and to return an aircraft to the ground safely using whatever aids are available. From 2014, EASA intends that no further IMC ratings can be issued, although the CAA says it is still fighting to retain the rating, given Britain's capricious and unpredictable weather.

Stall/spin

AOPA's Martin Robinson has also raised concerns about the data on which the EU/EASA list is based, particularly with regard to stall/spin accidents. Spin training was abandoned on the introduction of JAR-FCL because it caused too many accidents. The current PPL syllabus allows for spins and spin recovery to be demonstrated by the instructor in a suitable →

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cruise and on final approach. Flight may terminate with an instrument approach to within 2nm of the runway threshold under view-limiting devices.

Last week Bruce Landsberg confirmed the 'VFR into IMC' syllabus was inspired by the IMC rating, and had been modified to take into account the increasing sophistication of aircraft – a segment on flight on autopilot is featured – and was geared not only to the VFR pilot, but to the IR pilot whose rating had lapsed.

"We have looked at the UK's experience in dealing with the relatively unpredictable weather you have there, and the IMC rating looked like an excellent response to that from a safety standpoint. While we have a relatively high percentage of IR qualified pilots here, we do find that VFR-into-IMC accidents are running at the rate of about two a month, of which about 70 percent are fatal," he said. "That's not a big percentage of the total, but it is something we can clearly aim at and expect to improve.

"In fact, if you look back into the 1960s AOPA used to have a '180-degree course which taught pilots to keep control and turn back after an encounter with IMC. That was in the days of Cessna 140s and Piper J3s with little in the way of useful instrumentation, and as planes became better-equipped and more capable the number of pilots going for the Instrument Rating increased and the 180-degree qualification fell into disuse.

"Updating that qualification and making it relevant to the modern aviation world was obviously a good idea. We have taken into account the fact that weather forecasting has become infinitely better, that aircraft are generally easier to fly in IMC than previously because of improved equipment, and that the means of disseminating training materials have changed to the point where they can easily be placed at everyone's fingertips. But with the VFR into IMC syllabus, we acknowledge a debt to the UK's IMC rating, which we recognise as being exemplary in the field.

"We are of course aware that the IMC rating remains under threat, and we consider the so-called harmonisation objective a poor substitute for allowing pilots

Right: Cessna 140s and Piper J3s had little in the way of useful instrumentation

Chief executive's diary:

Brave New World

Imagine a world in which there are only big jets and microlights, with nothing in between. Traditional GA has vanished; anything with a Lycoming or Continental engine is now virtually worthless, airfields have withered away for want of trade, engineering shops have shut down because maintenance is done on an ad hoc basis by owners. Established flying schools have closed their doors because airline pilots now hold multi-crew pilots' licences and don't need to know how to fly or are flown remotely. LSAs, now recognised as solely for the pleasure market, have fallen victim to rampant environmentalism and any youth with an urge to fly is directed to a video game.

It hasn't happened yet, but we're heading that way, and much of what I do is directed at heading off that Brave New World. In March I was in Abu Dhabi, where they're trying to foster a general aviation industry and they're adopting EASA rules where they believe it's advantageous to do so. What was most difficult was impressing on the government just how broad a church general aviation is. Business jets they understand, microlights and LSAs they recognise without much understanding, but as for the rest, they're baffled – why would anybody want to fly over the desert in a PA-28? The infrastructure required to support such flights is not there yet either.

And as Europe bears down relentlessly on 'traditional' GA with ever more onerous regulation, driving more and more people either down or out altogether, I reflect on the fact that lack of understanding is the bane of all our lives, and we must fight and fight again to stave off the Philistines with the box-ticking minds as they seek to regulate out all risks.

On January 10th I attended a meeting with the heads of the SESAR Joint Undertaking to discuss where GA stands within the current SESAR development. The SESAR Director General Patrick Ky has been appointed to replace Patrick Goudou at EASA, and I think he's a good choice. He's approachable, less bureaucratic, and he has a PPL!

At the meeting we discussed ADS-B in/out and what it means for GA. For more than 20 years – in fact since the early Future Airs Navigation System (FANS) discussions – IAOPA has been pushing for research money to be directed towards the provision of a lightweight, low-cost, portable transponder, because that's the baseline technology that all the ANSPs are driving towards. In-cockpit weather downlinks are all well and good if you want them, but how many J3 pilots will lay out thousands of euros for the technology, then pay several hundred euros a year for the data? If it is possible to do in an affordable way, then great. If it's unaffordable, not so good. Everything is moving towards the so-called 'known environment' which the low-cost transponder would facilitate – the primary concern of the ANSPs is to see the traffic. It's long past time they used some of their publicly-funded research money to create this basic piece of kit. In this, we're supported by the ANSPs and the airlines.

We also spoke about remotely piloted aircraft, which could also use a low-cost, portable transponder to assist with traffic avoidance. There's a huge amount of money in this market, and the technology needed to detect our aircraft will have to be small enough to go into the smallest RPA. So we should encourage them to do the R&D and pay for the certification, and come up with a relatively low-cost solution. Power, portability, weight, size and cost are key, because for a known environment to work, all airspace users need to participate.

On January 18th I worked on the issue of fees and charges with the EASA Advisory Body. We've had some success here, and EASA is to be congratulated on listening to our concerns and recognising the problems our industry faces. They're not increasing the fees and charges to GA, which proves the value of all those meetings in Cologne.

On the 20th I was at the SES II+ hearing; this is the update to the update of Single European Sky. SES illustrates the fundamental gulf between the civil service and industry. When it was conceived, traffic was growing like topsy and everybody had access to a bit of spare cash. Then the economy went over the weir, the traffic vanished and the need to find new capacity became the least of the industry's worries. The airlines got the wagons in a circle and went into survival mode, but the civil service pressed on inflexibly, without even

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the means to save their lives. This isn't about bureaucracy – it's about flight safety."

Save the IMC

While the establishment of the American 'VFR into IMC' shows that the safety value of a basic qualification in instrument flying has been clearly recognised, such a qualification is no substitute for the UK's IMC rating, which AOPA is fighting to retain.

Martin Robinson, Chief Executive of AOPA UK, says: "While it can no doubt improve the situation in the US, the 'VFR into IMC' lacks all the incentives which make the IMC Rating such a major contributor to aviation safety in Britain. It is significant that, as Bruce Landsberg has found, a high proportion of accidents in IMC in the United States involve pilots who hold Instrument Ratings. These sorts of skills are highly perishable, and one of the great successes of the IMC Rating has been the fact that it allows, encourages and requires regular practice in the skills that will be called on in extremis when the pilot's life is on the line.

"When he was writing and promoting the IMC Rating in the late 1960s, AOPA's Chief Executive R.D. Campbell recognised the need to induce pilots to spend the money and invest the time to obtain and maintain the rating by building in incentives in the form of reduced visibility minima. These increased privileges are what has made the IMC rating such a major plank in Britain's flight safety strategy, and without them I suspect the uptake of the 'VFR into IMC' will not be as great as I'd like to see.

"If we wish to take anything from the Americans, perhaps we could look at their Instrument Rating. If and when the European equivalent becomes as achievable and 50 percent of PPLs get an IR, the whole picture on instrument flying could be changed for the better." ■

➔ **aircraft. However, under JAR-FCL the emphasis was placed on stall/spin avoidance.**

Martin Robinson believes the number of accidents attributed to stall/spin where no amount of stall/spin recovery training would make any difference has not been properly taken into consideration. A recent UK analysis of stall/spin included several such incidents. Martin says: "In one, an overloaded aircraft taking off from a short runway clipped a tree, stalled and spun in. In others, aircraft stalled by getting too slow on the turn from base leg to final approach and spun in from around 300 feet. Mandating spin recovery training in response to these accidents is pointless; the current recognition and avoidance training is the key."

EASA accepts that in many cases, such as low-level aerobatics or 'buzzing', a pilot's actions are already illegal and new regulation will do nothing to improve safety. The document containing the five points, however, is said to be laying the foundations for the way GA is regulated in future. ■

amending the deadlines. We're supposed to have had Functional Airspace Blocks in place last December – it didn't happen. Asking the airlines for €27 billion for SES is living in Mother Hubbard Land. But Europe wants to fine countries that don't meet their Performance Targets and in fact they've started infraction proceedings against states that have failed on FABs.

European Transport Commissioner Siim Kallas attended the SES II+ hearing, but the question was left hanging – where is it all going? IAOPA has said from the start that if the EC wants system-wide benefits for all airspace users we will support SES, but there has to be positive business case for GA if we have to pay to participate.

On the 23rd I did some more work on the EASA GA strategy, incorporating submissions sent by some AOPA affiliates into the main response, and I did some follow-up work with our Brussels lobbyist Lutz Dommel on meetings we have arranged with MEPs and their assistants. More on that shortly.

On the 25th I attended a meeting with EASA policy officers about the changes that will affect flying clubs, which will be required by 2015 to become Approved Training Organisations. The objective is to make sure that the requirements are less onerous than they currently are by the development 'acceptable means of compliance'. It's an alleviation process for those at the non-complex training level. However it shakes out, it still places a burden which never existed on registered facilities. EASA has to have an organisational approach to everything in aviation, however small. Safety Management Systems, Compliance Monitoring, Reporting Systems – even one-man-bands will have to comply. This is the sort of approach that has got Safety Management Systems a bad name. Endless box-ticking doesn't add up to safety.

On February 2nd I spent the day with Jeppesen in their UK office discussing future products for AOPA members. More on this anon. On the 5th I went to the General Aviation Strategic Forum at Gatwick, and on the 6th I was back in Strasbourg for more meetings with Lutz Dommel and MEPs. I've set in motion several actions and events for 2013.

On the 8th I went to the NATS presentation at White Waltham on the future reclassification of the Heathrow CTA from its current Class A status to Class C or D. This is because under European rules, VFR cannot take place in Class A, meaning the heliroutes would have to shut, while police and air ambulance work would be impossible. The preferred option is for Class D, which AOPA supports as it will give the highest level of access for VFR flights while continuing to protect commercial operations.

On the 12th we had the AOPA Executive Committee where among other things we discussed the future of the shop at 50a Cambridge Street, which will henceforth be run by AOPA. Then on the 19th we had the AOPA Flying Instructor Committee meeting, where FCL and ATO issues were discussed. Ray Elgy from the CAA attended and agreed to work with AOPA on an issues log.

On the 25th and 26th February I took part in the first stage of the EASA Board of Management review of EASA, as required by Article 62 of the Basic Regulation. More will follow on this. To the CAA in Kingsway on the 28th for the ASICG meeting, then on the 28th I went to Little Snoring with the Robinson Roadshow at the McCauley Flying Group. It was clear from the questions that PPL licensing is in the forefront of people's minds. It is also clear that if the transition to EASA FCL is considered to be to difficult, then more people are likely to give up flying.

From March 4th to 8th I was in the United Arab Emirates attending the Abu Dhabi Air Expo with other IAOPA colleagues. I had discussions with the CAA of UAE about their future plans for fostering general aviation – see separate story in these pages. On March 12th I went to the BBGA's Annual Conference, which focused on general aviation's work as an enabler in growing businesses. The BBGA's Marc Bailey is facing similar challenges to those faced by AOPA as we try to come to grips with new European rules; AOPA continues to have a strong working relationship with the BBGA.

Next day I met with Phil Roberts from the Directorate of Airspace Policy for an update and briefing on where DAP is going with Future Airspace Strategy. The fundamental question is how we keep general aviation healthy, when regulation and taxation are squeezing out the 'centre ground' and with it all the infrastructure it supports. Unless we have a change of mindset we'll kill off the most important part of the GA industry and wind up with nothing but leisure flying in small unregulated aircraft and commercial jets, with everything in between destroyed.

Next day I had lunch with *Flyer* publisher Ian Seager (thanks Ian) to brainstorm some issues; those of you who take *Flyer* will know I write an AOPA column in every issue, and Ian remains a strong AOPA supporter.

Martin Robinson

Ky man in EASA

Patrick Ky has been appointed Executive Director of the European Aviation Safety Agency in place of Patrick Goudou, who retires in the summer.

The appointment of Ky, currently Executive Director of the SESAR Joint Undertaking, was welcomed by International AOPA as a positive step. IAOPA Senior Vice President Martin Robinson said the appointment could signal an improvement in the strained relationship between EASA and GA. "In the ten years I've known Patrick Ky he has always been approachable and prepared to listen," Martin said. "What's more, he holds a PPL, which gives him an understanding of how our industry works and the problems it faces. I hope, too, that his appointment heralds a move towards a less bureaucratic environment at EASA."

Prior to his appointment to head the SESAR JU in 2007 Patrick Ky held a number of managerial positions in the French Civil Aviation Authority, the DGAC, with a private consulting company, and with Eurocontrol. Between 2001 and 2004 he was the ATM rapporteur for the Advisory Council for Aeronautics Research in Europe (ACARE), and he joined the European Commission to work on SESAR in 2004.

A graduate of the Ecole Polytechnique, the French hot-house for politicians and civil servants, and the Civil Aviation Engineering School in France, Ky also holds degrees in economics from Toulouse University and Massachusetts Institute of Technology. He obtained his PPL during his training as a way of fostering a wider understanding of aviation.

Martin Robinson said Patrick Ky's appointment could also pave the way for a better relationship between EASA and the European Commission. "He's come up through the EC, he knows how the EC works," Martin says. "EASA has a fractious relationship with the EC and I think Patrick will be able to repair that.

"It could also be a positive factor that the French DGAC, of which Patrick Ky also has first-hand experience, has as part of its mandate a responsibility to foster the commercial health of all of aviation, including GA. That's a philosophy EASA would do well to adopt.

"The appointment may owe something to the fact that EASA has taken responsibility for Air Traffic Management safety, and Patrick Ky was responsible for ATM management at SESAR.

"From GA's standpoint I hope there will be an improvement, and that EASA will do more than pay lip service to the idea of listening to industry.

"We wish Patrick Goudou well in his retirement." ■

Left: Patrick Ky is to replace Patrick Goudou (below) as Director General of the European Aviation Safety Agency

GA strategy – rolling back the EASA burden

International AOPA has responded to European moves towards a general aviation safety strategy with a series of suggestions aimed at improving EASA regulation of GA and reducing unnecessary burdens on the industry. The Association is continuing its push for a redefinition of 'commercial' aviation which moves away from the all-encompassing EASA notion that virtually anything where money changes hands is commercial, including business-related flights and group ownership of aircraft.

IAOPA believes the EASA definition of 'commercial' leads to a situation in which EASA indicates that you must be a commercial pilot operating on an AOC in order to give trial lessons, or even under certain circumstances to cost-share. Being designated as a commercial operation opens up new levels of bureaucracy, complexity and cost. IAOPA has been pressing for a change to the Basic Regulation, the EC's guidance document for EASA, in order to narrow the definition. The European Commission is sympathetic to our position but now believes the same goal can be accomplished by a derogation, rather than a change to the Basic Regulation.

IAOPA Senior Vice President Martin Robinson says: "Where Registered Facilities and aero clubs must transform themselves into Aviation Training Organisations (ATOs) under EASA, there is a step-change in the level of bureaucratic oversight and cost. We need to find ways to alleviate that, and we must congratulate the Commission on making a serious attempt to help. The Commission is listening and proposing positive changes. It doesn't by any means overcome all the problems that ATOs face, but it shows that the goodwill is there, and the EC is intent on removing a significant obstacle to business. We need all member states to agree with this, and IAOPA will work towards that end."

At a meeting with IAOPA officials, the European Commission informed us that they are working on a derogation for flying clubs (or aero clubs, depending on which country you're in) with the aim of removing their activities from the definition of 'commercial'. This could be a huge relief to flight training organisations which would otherwise face serious increases in bureaucracy and cost. The Commission has responded to IAOPA's concerns and believes this could be a 'quick win' but it warns that it needs the support of EU member states.

IAOPA is advising flying schools to wait before applying to become ATOs because there are still issues to be settled, and there is ample time. Martin says: "It's advisable to wait until the acceptable means of compliance are settled, because only then will we have a good understanding of what's required."

IAOPA also wants EASA to accelerate work on Phase 2 of the reconsideration of the Part M maintenance requirements to relieve some of the cost and bureaucracy burdens that have been imposed with no improvement in safety. There are also concerns over instructor and examiner requirements.

IAOPA is also seeking to simplify the Agency's stance on GPS approaches at GA fields, reconsider inflexible laws on oxygen installation, and step back from its determination to kill off the UK's Instrument Meteorological Conditions rating, allowing it to continue in the UK, where it has saved many lives in its 40 years of operation. It seeks an interpretation of the ICAO language proficiency requirements to restrict them to airspace and aerodromes where an air traffic control service is required and a change to medical requirements to exclude fewer private pilots unnecessarily from the industry. Third country registration issues, it says, should be dealt with through a validation system, and STCs from ICAO-contracting states should be acceptable to all. There should be no need for EASA to approve minor modifications

In conclusion, IAOPA says the EASA requirement to achieve "a high, uniform level of safety" is too amorphous, and in suggesting that safety levels for airliners should be identical to those for paragliders or small helicopters it places too great a burden on GA. The Basic Regulation governing EASA's work should be modified to reflect this.

IAOPA's full submission will be made available when it is finalised. ■

Search begins for new IAOPA President

Craig Fuller (*right*) is to step down as President of the International Aircraft Owners and Pilots Association and the search has begun for his successor. Craig, who is also President and Chief Executive of AOPA in the United States, committed to five years at IAOPA's head when he took the job in January 2009, and will stay in office until a successor is found.

Martin Robinson, Senior Vice President of IAOPA, said: "Craig has done a great deal of work to strengthen AOPA's presence on the international stage, and we have all benefited from his knowledge, experience and vision. He will be sorely missed and difficult to replace."

In announcing his decision, Fuller said: "I have flown since the age of 17, and flying has been part of my life ever since. It has been a privilege to work with my colleagues on a strong set of initiatives that have built on the decades of hard work by AOPA Trustees and members of the management team. With the end of my five-year commitment approaching, the process of finding a new leader can now go forward as all of us at IAOPA roll up our sleeves to fight the day to day battles that seem to keep coming our way."

Fuller is a skilled political operator who was assistant to President Reagan for Cabinet Affairs between 1981 and 1985, and chief of staff to Vice President George Bush from 1985 to

1989. In business, his positions included service as president or vice chairman of several leading public affairs firms. With the increasing globalisation of aviation regulation, he laid new emphasis on co-operation between the 70 AOPAs worldwide and bolstered IAOPA's presence in Brussels. ■

Gulf between GA and CAT

A new AOPA has been formed in Abu Dhabi, where there is a move to provide home-grown commercial pilots for the area's burgeoning airlines in order to reduce the traditional dependence on expatriate captains.

A number of representatives of AOPAs around the world were invited to the Gulf to advise on the development of general aviation, with the emphasis on European representatives as Abu Dhabi proposes to adopt elements of EASA regulations, and its government is keen to see how they work in the real world. The party included International AOPA Secretary General Craig Spence, Senior Vice President Martin Robinson, AOPA Germany Managing Director Dr Michael Erb, and AOPA France President Jacques Callies.

There is no real tradition of general aviation the Persian Gulf and the level of understanding and empathy is low. Because of local security considerations it's difficult for government officials to get their heads around the fact that an as-yet-unqualified pilot who may not have had his full quota of background security checks can be allowed to fly a qualifying cross-country alone.

Martin Robinson says: "They don't necessarily understand why people want to fly. They understand people wanting jobs

AOPA seeks assurances on SES for GA

AOPA is concerned that general aviation is being neglected amid faltering progress towards a Single European Sky (SES) and has written to European Commissioner for Air Transport Matthew Baldwin seeking assurance that continued participation in SES projects is a fruitful use of time and resources.

Ambitious plans for the improvement of Europe's fragmented air traffic systems have slipped down the priority list as airlines' economic problems have taken precedence, and goals that should already have been achieved are still some way from reality. At a hearing on progress Commissioner Baldwin stressed that GA should remain involved in the Single European Sky effort. But IAOPA Senior Vice President Martin Robinson has again expressed frustration with the lack of real consideration being given to general aviation under SES.

In his letter to Matthew Baldwin he says: "IAOPA Europe commits thousands of euros of membership income each year to participate in the debates through the Industry Consultation Body and other forums. IAOPA is also involved formally with SESAR (the SES Research Programme) and we have put enormous resources and effort into commenting on high-level documents such as the Concept of Operations, where we identified deficiencies in relation to GA's operational needs and constraints. However, it appears that very little if any of the proposed suggestions have been incorporated into SES."

While IAOPA fully understands the priority which is being given to those SES functions which largely concern commercial air transport, Mr Robinson says it is difficult to see where GA's contribution is being taken seriously. "By focusing exclusively on airline aircraft, SES is missing the opportunity to improve operational efficiency, reduce emissions, and lower the overall costs for all members of the aviation community," he writes. "In fact, our counterparts in the States are actually seeing a decrease in the amount of controlled airspace as a result of airspace redesign that not only improves the efficiency of aircraft operating out of main airports but frees up airspace for those operators that utilise the surrounding airfields."

Mr Robinson seeks a clear lead from the Commission on how general aviation is to be included in the SES process in a meaningful way.

Mr Robinson said yesterday: "I believe Matthew Baldwin genuinely wishes to do more than pay lip service to the idea of involving general aviation in SES debates, but we lack the ability to ensure that GA's concerns are dealt with in a meaningful way. We want to help, but we cannot afford to deploy our resources in ways that are unproductive." ■

Left: no shortage of cash, but a gulf of understanding of GA at the Abu Dhabi air show

as airline pilots, and they think they have a grasp of why people might want to just get off the ground in microlights and LSAs, but they can't conceive of anything in between. We are looking to help change the prevailing attitudes through information and education on the value to GA from LSA to business jets, including everything in between.

"They may be showing us a vision of the future in Europe, where there is increasing polarisation between Commercial Air Transport on one hand and Light Sport Aircraft on the other. The extraordinary regulatory burden on what you might call traditional GA, the 172 and the PA-28 sector, is strangling that market. As pilots downshift into microlights or LSAs the aviation maintenance system that is the bedrock of commercial engineering becomes ever less viable, the GA money that goes into supporting airfields and underpinning the business of general aviation continues to dwindle, aircraft become unsaleable, Lycoming and Continental engines become unviable – and all of this is happening because our regulators cannot see that regulation must be proportionate to the industry it regulates. The problem is even more acute at this time as European economies continue to struggle to recover from the financial crisis.

"Unless we fight this tooth and nail, we will look back on the runs of general aviation and wonder how we ever allowed our regulators to run amok like that."

Left: IAOPA Senior Vice President Martin Robinson with Diamond DA-40 at the Abu Dhabi air show
Above: Jacques Callies, President of AOPA France and publisher of* Aviation et Pilote*; with him is IAOPA Secretary General Craig Spence

AOPA drop-in shop in London

AOPA will be providing a new facility for members in central London from May when refurbishment work to the offices in Victoria is completed.

Transair has closed its London shop, which used to be on the ground floor and basement of the AOPA building at 50a, Cambridge Street, not far from Victoria station. AOPA is turning the premises into a shop and meeting place for pilots, where as well as buying flying supplies you'll be able to sit and have coffee, use the wi-fi, meet AOPA people or wag the chin with your fellow aviators.

The basement is being converted into a room in which formal meetings can be held. AOPA spends a significant amount of your money on meeting rooms for the Executive Committee, Instructors Committee, Members Working Group and others and it will be useful to have the ability to meet on the Association's own premises. When not in use for meetings the room will be available for pilots to use. It should be possible to provide coffee and biscuits free of charge – we'll see how that goes.

AOPA has amassed a large collection of aviation books and magazines which will be made available for those who want them. New uses for the area will no doubt suggest themselves as time goes on.

Up to 50 percent of the pilots using the Transair shop have come from abroad looking for goods that are difficult to come by in their own countries, and members of all AOPAs worldwide are welcome. Non-members will also be welcome but will be strong-armed into joining.

The facility is going to be open six days a week from 10am to 6pm, and more details will be promulgated when they are finalised. ■

APD tax net widens

From April 1st, Air Passenger Duty (APD) will be payable by any aircraft leaving the UK, with exemptions for avgas-burners, helicopters and aircraft under 5,700 kg.

Aircraft between 5,700 and 20,000 kg flying up to 2,000 nm will have to pay £13 per passenger in APD.

Full details can be downloaded from the HMRC website www.hmrc.gov.uk – search for notices 550, 551 and 552. The new tax also applies to foreign aircraft as well as all private operations.

While APD will directly affect only a small number of AOPA members, its extension is another blow to the struggling business aviation sector and the knock-on effect could spread the misery more widely. The BBGA has done a lot of good work on this issue, and AOPA maintains a strong relationship with them for the benefit of members of both organisations.

Manchester students win AOPA award

AOPA supports an educational initiative that aims to encourage budding aircraft designers every year by providing one of the major prizes in 'It Flies!' – the annual Merlin Flight Simulation Group's Aircraft Design and Handling Competition. The competition took place in June 2012 at Coventry University and is open to student teams from UK universities and colleges; each team submits their own design of an aircraft to a specification set by their tutors which is then 'flown' on the Merlin MP521 engineering flight simulator by test pilots Dave Southwood from the ETPS and Graham Archer of Cobham PLC. The pilot's view from the cockpit during the test flight of each of the competing aircraft designs is relayed to a large screen viewed by all the student teams and their tutors, with a running commentary provided by the test pilot so that it is clear exactly what aircraft handling characteristic is being explored and with what result.

The entry that won the AOPA award was a light single engine training aircraft designed by a team of three second year students from the University of Manchester. The award provided them with one hour's flight training with an AOPA Corporate Member. Graham Archer's comments on how the simulator model handled are as follows: "I enjoyed flying the Manchester trainer aircraft and thought it accurately replicated how I would expect an aircraft of this class to fly. The aircraft showed conventional stability around all three axes and controllability was adequate for the tasks attempted. The performance of the aircraft also appeared to be close to other trainer aircraft which showed that both thrust and drag had been accurately modelled. Overall, a very convincing simulation, and well done to all of the Manchester team."

Eyes on the prize

The flying was provided by AOPA Corporate Member Westair Flying School based at Blackpool Airport. Student **Ramy Mesalam** writes:

We entered with our new design of a light-weight training aircraft and to win the main prize for the handling qualities came as quite a shock! It was fantastic to be given a flight lesson each at Blackpool Airport sponsored by AOPA.

Having had no real world experience of flying before, I elected to be the first to co-pilot the Cessna 172, although I was both excited and extremely nervous. However, when the engine started up and the wheels began to roll, my nerves instantly subsided and were replaced by enjoyment.

Left: two top test pilots flew the Manchester design in the engineering sim

As we accelerated to take-off speed, I had my first control of an aircraft. Climbing out from Blackpool Airport, I fought to maintain my focus as I took in the spectacular views over the south end of the town and across towards Blackpool Tower.

I levelled the aircraft out at around 2000 feet and turned to the right to head towards the Yorkshire Dales. As we flew further north, I marvelled at the complexity of the Cessna's dashboard as the instructor explained what information the instruments provided. The precipitation was closing in from the north but we had just enough time to follow the coast up to Morecambe, where we could view boats struggling to stay upright in the deteriorating weather conditions. We turned back towards the south and followed the M60 towards Blackpool, chasing a train on the adjacent railway line.

As we approached the airport, the weather proved better than it had been towards the north. Our instructor gave me control until our final descent towards the runway, where he performed a perfect centreline touchdown.

I was overwhelmed by the whole experience and sad that I would probably not get the chance to fly a plane again for a very long time. The day's flight will be something that I will never forget.

Fellow student **Stuart Garthwaite** writes: Having flown a couple of times some years ago, I was relishing the opportunity to fly once more. At the start of the day, we had made plans to venture up the coast, towards the Lake District for a flight over Windermere and Ambleside. I was excited to see such a beautiful area, which I visit often, from a new perspective. However, the weather had other plans.

It was my turn to fly the aircraft after Ramy and we headed up north, hoping for clearer weather. But the rain unfortunately had not eased off so the decision was

Right: at 500 feet on climb-out from Blackpool as students get their reward

made to turn back towards Blackpool and head inland to Clitheroe, where the sun happened to be shining.

Flying over the three nearby quarries was quite an experience and presented something quite exciting to behold with the flight shadowing the rolling terrain and major transportation networks. On return, as we approached the Blackpool area, so did the clouds, to a point that our ground references could no longer be easily seen. Whilst I no longer had much idea as to where we were, our instructor safely brought us around to finals and in for another great landing, despite the conditions. This proved to be the final landing of the day.

Despite the added challenge of less than great weather conditions, I thoroughly enjoyed my experience of both handling the aircraft and of the stunning views of North-West England.

Abdullah Desai writes:
Even with 35 hours logged towards my PPL, flying in the back of the Cessna was amazing. I really couldn't wait for my turn. However, a large cloud with a base of 300 feet hovering around the airport threatened my chances of flying after Stuart. Coming in on a five-mile final, we had to ask Tower for the full runway lights to be illuminated. I knew there would be no further flying that day.

The forecast for the next day was also unsettled; gusts of up to 25 knots and cumulonimbus clouds from the night before. Fortunately, it was not enough to prevent flying and as we took off the weather was seen to be much better to the north with clearer skies and calmer weather.

Flying the Cessna was a truly fantastic experience; it handled quite differently from other aircraft I've flown. Not only was it smooth during flight but it was powerful and fast. I was offered a navigational exercise, the task provided being to use radio navigation to guide us to Kendal from Blackpool.

After taking off from Runway 27, my instructor invited me to ask for a Traffic Service from Warton Radar and carry out a FREDA check while we climbed to 2500 ft. I was briefed on how radio navigation worked and to set up the appropriate VORs to guide us on our journey. Then we waited and watched the VOR needle crawl closer to the centre as we approached the desired radial. On course we checked all the navigation radio settings. This meant listening to the Morse bleeps. I need to learn Morse code! Along the way to Kendal we witnessed the beautiful scenery of the Lake District and Yorkshire Dales. Using and following the VOR was quite easy but the main test was setting it up correctly!

On the way back to Blackpool, due to the low cloud, we tracked the coast down to Fleetwood, where Tower told me to join on base leg. This was fine, but the turn onto final resulted in being too high. However, I managed to get it all under control and flared right over the numbers to make a textbook landing. I thought the instructor had pulled back the controls at the last moment to level us, but he insisted I had control all the way down! It was all a fantastic and enjoyable experience, the perfect landing just making it even better. ■

'Designated' airfield confusion

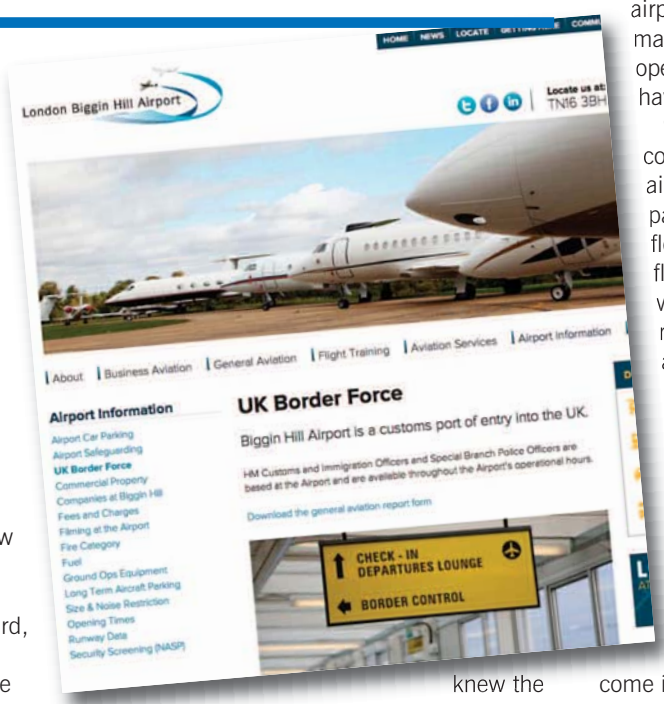
The case of a Guernsey-based pilot who had an unpleasant experience at the hands of Border Agency personnel has shown up a number of shortcomings in the relationship between GA and some Agency staff.

The AOPA member landed at Biggin Hill in a privately-owned turboprop single having flown as second pilot on an IFR flight plan from Schwabisch Halle with the owner-pilot and two passengers, all of them British nationals.

At Biggin he presented their passports to two UK Border Agency officials on duty while the owner saw to the refuelling. The member presented a pre-prepared General Aviation Report (GAR) for all on board, but the senior Border Agency staff member demanded to know why the GAR had not been submitted four hours in advance.

The pilot says: "I explained that as Biggin is a designated airport, I believed I was not required to do this, but had presented the relevant document in accordance with what I believed was current practice. I tried to explain that the minimum four-hour notice requirement was for General Aviation Agreement airports such as Blackbushe.

"The lady officer became increasingly adamant and hostile, in front of her junior colleague, myself and the passengers, stating that she was a senior UKBA officer, knew the rules and that I was wrong. She refused to provide any written documents to support her case and would not identify herself, for 'security reasons'. Further, she stated that had she or her colleagues not been available to meet the aircraft we would have been required to divert to another airport."



The member, a commercial pilot with an unblemished record over 40 years of flying, added: "I really try to comply with the rules. I have checked with Biggin Hill and they confirm that they are still a designated airport for the purposes of TACT 2000. If there is now a requirement for a minimum of four hours notice being required to operate into a designated airport, especially a port of entry manned by UKBA throughout its opening hours, what is the point of having such designated airports?

"It is interesting to think that we all could have just turned up at Stuttgart airport, presented our money and passports to a commercial carrier, flown to London on a commercial flight and gone through border control without any prior notice being required. As such, general aircraft are being actively discriminated against by the UKBA."

Martin Robinson confirmed there had been no change in the rules covering designated airports and said problems sometimes arose from the attitude of a minority of officials. "Under most circumstances these interactions happen in a spirit of co-operation, but when questionable attitudes come into it, relations break down. Some staff believe there is flexibility in how they apply the rules, but both sides have to understand precisely what the rules are. For instance, they have to have "reasonable grounds" to stop a pilot. I've discussed with the Border Agency what those grounds might be, and they say 'What about gut instinct?' That effectively gives them carte blanche to delve into anything, and I don't think that's a tenable situation. The objectives of the Border Agency can only be attained through co-operation with pilots."

AOPA is awaiting a response from the Border Agency on the Biggin Hill case. ■

All's well that ends well

By Nick Wilcock

We recently received a query from one of our members, a retired airline captain, who was attempting to convert his UK ATPL(A), which was about to expire, to a Part-FCL pilot licence. Our member holds an SEP Class Rating and a valid Part-Med Class 1 medical certificate. He was informed by the CAA that his UK ATPL(A) could not be converted to a Part-FCL ATPL(A) and wished us to advise him accordingly.

We reminded him that, under part-FCL, an ATPL(A) may only be issued to pilots whose existing licence includes a valid Type Rating for a multi-pilot aeroplane. As his didn't, he would only be able to be issued with a Part-FCL CPL(A). We further advised him to remind the CAA that, as his UK Professional Aeroplane Pilot Licence includes embedded IMC rating privileges, that his new Part-FCL CPL(A) should include an Instrument Rating (Restricted).

Following our advice, our member contacted the CAA further. Subsequently, he received his Part-FCL CPL(A), but the IR(R) had been issued as an 'expired rating', because his UK ATPL(A) did not include a valid IMC rating certificate of test. Fortunately our member had taken the prudent step of concomitant renewal of his UK ATPL(A), so that he didn't lose any IMC privileges provided that he exercised them using his green book rather than his little blue one.

We then advised him that, as stated in CAP 804:

> **3.3.3 UK National Professional Aeroplane Licence Holders**
> *IMC Rating privileges are contained within UK CPL(A) and ATPL(A) licences; (this does not include JAR-FCL or Part-FCL licences). There is no requirement for a separate IMC Certificate of Test for these licences.*

Hardly surprising therefore, that his UK ATPL(A) didn't include an IMC Rating Certificate of Test!

In our opinion, we considered that his IR(R) should have been issued with a 25 month validity from the end of the month of the date of issue of his Part-FCL CPL(A). On our member's behalf, we wrote to Ray Elgy, the CAA's Head of Licensing and Training Standards, asking him to investigate the matter further. Within less than a working day, Ray came back to us, confirming that we were correct in our opinion and that he had taken action to re-brief the Licensing Team accordingly.

Our member was very glad to receive this news!

The reason we're publicising this is not to 'score points against the CAA', with whom we have a very good working relationship, but to make other members aware that IR(R)s issued on the basis of IMC privileges embedded in UK non-JAR ATPL(A) and CPL(A) licences should be issued with a 25 month validity from the end of the month of the date of licence issue.

AOPA wishes to thank Ray Elgy publicly for his kind attention to this matter, which will be of benefit to many of our other members.

Channel Islands registry

The Channel Islands of Jersey and Guernsey are moving ahead with plans to set up their own aircraft registry after witnessing the success of the Isle of Man 'M' register, which has attracted more than 500 aircraft in five years. Like the Isle of Man, Jersey and Guernsey are self-governing Crown dependencies, which means they are not part of the United Kingdom, nor are they part of the European Union. They have attractive tax structures, and it is expected that like the Isle of Man, they may allow their aircraft to be maintained under the regimes of any reputable aviation authority.

The establishment of a Channel Islands registry has been delayed by internal friction, with Jersey and Guernsey jealously guarding their autonomy to the point where co-operation is handicapped. Guernsey precipitated action by deciding to go it alone and will be establishing the 2-XXXX registry. Jersey is now deciding whether to join Guernsey in a single register, establish a separate register, or run two separate registers under a single administrative system.

With EASA making it increasingly difficult to operate in Europe on the N-register, the attractions of a flexible non-EASA register are obvious and include lower cost, less complexity and greater flexibility. One serious issue in the Channel Islands is that Jersey imposes a 5% VAT equivalent on aircraft, while Guernsey imposes none – the Jersey registry would therefore be rendered uncompetitive. Moves are being made to find a solution.

Safety Bonus Day at Duxford

To kick off the flying season, Duxford is holding an informal Safety Bonus Day on April 13th, with discounted landing fees and free admission to the Imperial War Museum's world-renowned collection.

Over the last six years Duxford has run several similar events with a great deal of success. Following the tried and tested formula, the Safety Day will again be a mixture of informal presentations and opportunities to chat to professionals. The presentations will be repeated, so you can arrive and leave when it suits you best.

There's no charge for the Safety Day programme, and the landing fee is discounted to £7. If the weather is poor on April 13th and you have to drive to Duxford, parking will be free as long as you pre-book. As for flying in, book early to get the best slots.

There is a fantastic array of approachable experts to talk to about safety and answer any questions that may have been bothering you.

The Safety Day presentations, which run from 11.30 to 13.30 and will be repeated from 14.00 to 16.00 local time, are:
Nick Wilcock AOPA: The UK IMC Rating - an update.
Steve Barrett and Dan Batty, D&D: How D&D can help you
Ian Simpson, Met Office: Weather – Even more things to spoil your day.
John Gentleman, GA Navigation Group: GPS Navigation.
David Cockburn, CAA: Collision Avoidance

This year there are even more informal table-top sessions which run continuously from 10.30 to 16.30. NATS will have six, covering Infringements; London FISOs, AFPEx, Notams/AIP, Farnborough LARS, and D&D. The NATS team will include Jonathan Smith, Jon Bolton, Neil Blaskett, Tobin Berry, Steve Frejek, Hannah Clarke, Chris Matthews, Jo Suter, Andy MacKnight, Dan Batty and Steve Barrett.

CFI Corner: AOPA Instructor Committee member Carol Cooper from Andrewsfield covers licencing; renewals; ratings; everything you wanted to ask.

The teams giving more formal presentations will also be running table-tops (AOPA, CAA, Met Office, GA Nav Group), so if you need a one-to-one discussion, they're available.

There will be free guided tours of Hangar 4, the Battle of Britain Exhibition, and the museum's popular AirSpace Hangar, conducted by Duxford experts, morning and afternoon. Call 01223 833376 to register your interest, book your landing slot for PPR and Briefing, or to book your car in and to receive the programme for the day.

The airfield will open early to cater for the many visitors expected. Booked slots are limited.

One to remember for later in the year – the AOPA Bonus Day is on Saturday September 14th this year. Further information about the Bonus Days and information for fly-in visitors can be found on the website *http://www.iwm.org.uk/visits/iwm-duxford* and follow the flying at Duxford links.

‘Eyes and ears’ wide open

The case of an American helicopter pilot who was flying while banned has shown how much the authorities need to rely on general aviation pilots to act as their “eyes and ears” to counteract terrorism, immigration rackets and other forms of serious lawbreaking.

The man aroused the suspicion of other pilots when he began filling large numbers of jerry cans with avgas at an airfield in Arizona. They tipped off the Department of Homeland Security, whose agents followed him. They knew they were onto something when they found that the registration of his Robinson R44 had been altered with masking tape to make an ‘O’ of a ‘Q’.

They finally apprehended the pilot, only to find the reasons for his behaviour were relatively innocent. William Stokely had had his licence revoked by the FAA for buzzing houses near his home and had altered his registration in a ham-fisted attempt to disguise the fact that he was still flying his helicopter. He’d been stashing avgas in the Arizona desert in order to extend his radius of operation.

AOPA’s Martin Robinson said: “Nobody likes to get another pilot unreasonably into trouble, but this incident once again illustrates the fact that general aviation pilots are the first line of defence against those people and those activities the authorities are so keen to know about. There are people in government who tend to think of GA as ‘the enemy’ but as we have shown time and again, alienating general aviation pilots is the very last thing the authorities should be doing.”

Fly2help growth continues

Felicia Willow has taken over as Chief Executive of fly2help, the general aviation charity behind Air Smiles Days, which allow disadvantaged people to experience the joys of flying.

The charity has expanded to encompass four new airfields and is seeking corporate support for further growth.

Through its Air Smiles Days, fly2help provides bespoke VIP days aimed at bringing joy and laughter to those in difficult situations. Its beneficiaries include families and individuals living with disability, chronic and life-limiting illness, abuse and neglect and financial deprivation. The charity relies on pilots who donate their time and aircraft to providing flights to beneficiaries.

Felicia Willow says: “These are exciting times for fly2help and we are actively seeking sponsorship and financial support from individuals and companies who are interested in making the journey to a national presence alongside us. We are fortunate to enjoy support from national figureheads such as the Red Arrows, the Battle of Britain Memorial Flight and the RAF Typhoon Display Team. We now hope to develop strategic financial partnerships with corporations that share our drive to improve people’s lives through aviation.”

fly2help was established in 2006 by Rolls Royce Chief Test Pilot Phil O’Dell. Based in the tower at Kemble, the charity can be contacted on 01285 770 821. Their website is www.fly2help.org

Briefings

Moths return to Woburn

The de Havilland Moth Club International Rally returns to Woburn Abbey on Saturday 17th and Sunday 18th August, and the call has gone out to vintage and classic car owners to join the old-time fun.

The rally, one of the most popular heritage events on the summer calendar, is set to return to its spiritual home of Woburn Abbey after a five-year absence.

In addition to delighting aviation enthusiasts, the event is also set to be a mecca for vintage and classic car fans.

The historic parklands of Woburn Abbey first played host to the rally in 1980. For almost three decades the event was a highlight of the summer season, combining flying displays, club flying competitions, vintage and classic aircraft and cars. The 2013 event promises to be bigger and better than ever, while still maintaining an authentically 'old English' atmosphere which encapsulates all that is great about Britain.

Owners of Tiger Moths, other de Havilland types and invited vintage aircraft will operate from a specially prepared grass strip in the Deer Park at Woburn Abbey which was once part of a wartime runway onto which Stirling and Lancaster bombers were flown for dispersal among the ancient oak trees.

The de Havilland biplanes and other classic types will be on show in front of the club marquees and classic car displays. The event will also allow a special 'get up close hour' each day, when enthusiasts can take photographs and meet pilots. There will also be club flying competitions on Saturday and an air display on Sunday afternoon,

"Vintage and classic cars were always a special part of the de Havilland Moth Club weekends," says Stuart McKay, secretary of the de Havilland Moth Club. "We anticipate gathering the vehicles on the hillside to the eastern side of the runway, from which vantage point it is possible to look down onto spectacular views of the lakes and the airfield, the characteristic features which make the setting of a Woburn Abbey Moth Rally so unique." – *Steve Slater* ■

Calling all microlights...

The Microlight Challenge is a new event sponsored by the BMAA, and is intended to encourage all microlighters – regulated, deregulated and foot-launched – to spread their wings and explore UK and European airspace.

The challenge is to fly as far as you can and still get back home in a 30-hour period. If you work a five-day week you'll be able to set out on Saturday morning, camp out overnight and be back in time to pack up and be home for dinner on Sunday. But any 30-hour interval will do.

There will be three classes – regulated microlights, which will operate a handicap system based on their published performance; deregulated microlights, and foot-launched. These last two will be unhandicapped. You will need to record your track using your navigation GPS, a dedicated logger, or your phone.

The rules will be kept as simple as possible commensurate with fairness, with the emphasis on fun rather than out-and-out competition.

Full details are on the BMAA website at www.bmaa.org – click the 'Events' tab. Early registration will allow for better planning.

Flights for the Microlight Challenge will also be eligible for an international paramotor cross-country league called XContest (http://paramotors.xcontest.org/world/en/).

Brooklands in the money?

Wellington 'R for Robert' in the Grade 2-listed Wellington Hangar
Below left: the hangar currently sits on the finishing straight, behind the 'Motor' sign in this 1939 photo
Below centre: aircraft will be able to roll out onto the refurbished racetrack for taxying demonstrations
Below: the banking is visible behind the Vickers Vanguard

Brooklands is on track to receive Lottery funding of £4.85 million to revive the aircraft factory and the famous banked racetrack. Brooklands Museum has received a 'first-round pass' for a bid for a multi-million pound grant from the Heritage Lottery Fund (HLF). This means its project is seen by the Fund as having merit, and that initial funding is being granted pending a decision on the full deal.

The Brooklands Aircraft Factory and Race Track Revival Project aims to relocate, restore and reinterpret the Museum's Grade 2-listed Wellington Hangar as The Brooklands Aircraft Factory, with a new annexe to house more of the Museum's collection of historic aircraft, and to restore the section of original racetrack on which the hangar currently stands. The project includes the establishment of a training scheme in historic aircraft restoration.

The initial funding allocated by the HLF for this project is £286,500, to which the Museum will add further cash and volunteer input to allow development work to a total value of almost £410,000 to be undertaken. This will help Brooklands progress its plans to apply for the remainder of the full grant in 2015.

Brooklands racetrack, opened in 1907, was the world's first purpose-built motor-racing circuit. Within a year, early experiments in aviation were taking place on the site. Brooklands rapidly evolved into an outstanding centre for the development and operation of racing cars, motorcycles and aircraft. During the Second World War, Vickers-Armstrong and Hawker expanded their operations, with Vickers erecting a number of buildings on the track, one of which was the Wellington Hangar, built in 1940. It now houses the Wellington 'R for Robert', recovered from Loch Ness in 1985 and restored at Brooklands, and numerous other aircraft.

Under the HLF-funded project, the hangar will be restored on a new site adjacent to its current one, allowing the finishing straight to be brought back into use for motoring and aviation activities.

The hangar itself will be presented as an aircraft factory, its displays showing how aircraft from the earliest pioneers to Concorde were designed, built and developed at Brooklands over an 80-year period. In a new adjoining flight shed, the Museum's active aircraft will be kept ready to roll out onto the refurbished racetrack for static and taxying demonstrations, while in new workshops underneath that building Museum volunteers will learn and practice aircraft restoration skills.

Brooklands Museum Director Allan Winn says: "This most welcome HLF funding will help us restore a famous historic building and safeguard internationally important aircraft, to give our visitors the only place in the country where they can see how aircraft were (and are) designed and built. It will also allow us to bring a significant part of the world's first motor-racing circuit back to life – and to use all those elements to inspire youngsters, especially, to engage with the nationally-vital subjects of science, technology and engineering."

Brooklands Museum, operated by a charitable trust, opened in 1991 and attracts over 150,000 visitors a year including large numbers of school children on organised educational visits.

EASA's R66 excuses wear thin

EASA's continued failure to certify the Robinson R66 helicopter two and a half years after it was certified in the USA and elsewhere is looking even more suspect following the granting of an 'Equivalent Level of Safety' finding by the FAA on a component EASA is using to justify its failure.

The R66, Robinson's first turbine helicopter, was certificated in America and a dozen other countries in October 2010 and has since outsold every other helicopter with the exception of the piston-engined R44. EASA's reason for declining to certify it centres on a non-return valve in the hydraulic system which was grandfathered into the R66 by the FAA on the grounds that it had performed flawlessly in the R44 for a decade, and in the Bell JetRanger for even longer.

EASA, however, demanded proof that this valve would operate for one billion hours without a failure. In the R44 fleet, the valve has only performed without failure for 26 million hours, so EASA's requirement would take 400 years to satisfy.

The requirement was seen as so unreasonable that EASA's motives were questioned, and allegations were widely made that its refusal was designed to protect the market for European helicopters like the EC120, a small single turbine which costs twice as much to buy and run as the R66 and has not been selling well. The refusal to certify led Swiss helicopter operators to file an action against EASA with the European Ombudsman's office, and they are working up a legal action against the agency. Hansruedi Amrhein of Valair AG says: "This is no technical certification of EASA, it is a political one under influence of the European market leader. The R66 competes directly against the EC120 with higher performance and much lower initial and operating costs. More than two years after FAA certification there is no serious expectation of an EASA certification within a rational time. The billion-hour requirement shows clearly that EASA does not want R66 certification. They impose unfair cost burdens on the industry and use their position to distort competition."

David George, founder and Chairman of Sloane Helicopters, added: "I believe that Eurocopter may well be 'influencing' EASA to stop, or failing that, delay the European certification of the R66, which outperforms the EC120 in every way. While our competitors around the world benefit from the R66, we are denied it in Europe. This is doing serious damage to our industry."

Robinson has been working with the FAA to establish an 'Equivalent Level of Safety' finding to replace the exemption given to the valve under the grandfathering process. The ELOS involved a rigorous analysis and test programme to demonstrate the single-valve design was equivalent in safety to a redundant design. Robinson has now received the ELOS, which will remove the exemption from the R66 hydraulic control system. This should therefore open the way for the R66 to be certified by those authorities such as EASA that do not accept the exemption.

Several R66s have been bought in Europe, but they must operate on the N-register, which makes it difficult to use them for anything other than private flying. ■

Alderney fly-in is back

The Channel Island of Alderney will once again host a fly-in this summer after an eight-year absence – the dates are June 28th to 30th.

Alderney has staged 20 annual fly-ins in the past, but the event has been given new impetus this year by the fact that runway work on nearby Guernsey means the popular Guernsey Fly-In cannot be held this year.

Dave Chiswell, Chairman of Alderney Flying Club, says: "We are delighted to be able to restart our Fly-In this year and we are looking forward to extending a very warm welcome to all private aviators from the UK, Guernsey, Jersey and the Continent.

"We are now putting together a Fly-In package for all participants which will include flying and social events together with an island-wide entertainment programme. Alderney will also offer accommodation and restaurant deals to turn this into a memorable and enjoyable weekend.

"We are being significantly helped by our friends and neighbours of the Guernsey Aero Club who unfortunately cannot hold their event this year."

For details of events and discounts see www.flyalderney.com.

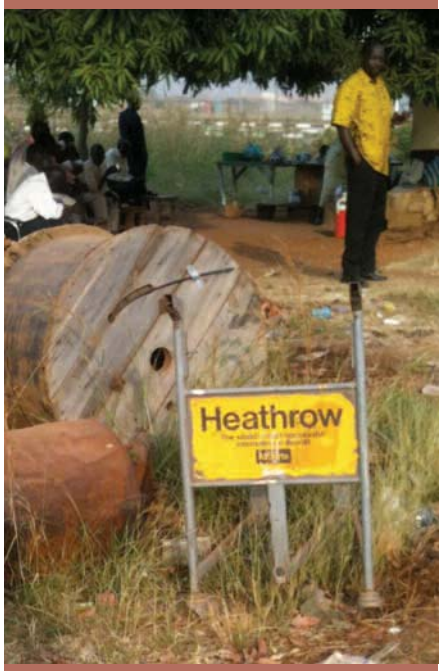
Try your skills at TopNav

The Royal Institute of Navigation is once again running its TopNav competitions this year.

TopNav is an excellent way of polishing your navigation skills, and has attracted a competitive field of entries every time it has been staged. Several years ago it was split into two contests, North and South, so people didn't have to fly so far to take part. This year they've decided to shorten the courses to reduce costs. They've also cut the entry fee, and for those who have concerns about their rapid-planning abilities, they've changed the system so the route data is available on arrival.

Everyone who has entered this competition says it's a lot of fun, as well as having a sound safety aim. Topnav North will take place at Gamston on May 11th, and Topnav South at White Waltham the following weekend, May 18th. Entry forms are available on the RIN website at www.tinyurl.com/topnav13

Off your trolley



…and this month's prize for the furthest-flung Heathrow baggage trolley goes to Mr Sam Rutherford, who took this picture at the airport in Juba, capital of the newly-invented Republic of South Sudan. As to how it got there, make up your own story. One presumes it must have changed at Khartoum.

Juba was a stopping-off point for Sam and his fellow pilots in the prepare2go.com Trans-Africa Safari, which left Heraklion in Crete in January to route through Egypt, the Sudans North and South, Uganda, Kenya, Tanzania, Mozambique and South Africa.

New NATS award to cut infringements

A new award to recognise the flying clubs and schools that go the extra mile to prevent airspace infringements has been introduced by NATS.

The award acknowledges the work of the general aviation community in helping reduce the number of infringements during 2012. It is open to any flying club, association, school or group which has made a special effort to prevent and mitigate the risk of infringements and to educate and support pilots who do.

Jonathan Smith, NATS Infringements Lead, says: "There can be no doubt that the continued and proactive efforts of the general aviation community have underpinned the fall in the number of incidents last year. This new award is NATS way of recognising the important contributions made by our GA partners."

Stapleford Flight Centre in Essex is the first recipient of the NATS Infringement Prevention Award, having successfully halved the number of infringements by its members in 2012.

Colin Dobney, Head of Training at Stapleford Flight Centre, says: "I'm delighted the sustained campaign to reduce airspace infringements, led by Deputy Head of Training, Brian Peppercorn, has received official recognition from NATS. Air safety is the priority in all Stapleford's training programmes for tomorrow's airline pilots and our Private Pilot club members.

"We will continue campaigning to reduce infringements even further, aiming to achieve an even better performance in 2013."

Is your plane plain?

The UK Pilatus Centre at Bournemouth Airport has arranged for designer and star of Channel 4's 'Four Rooms' Celia Sawyer to provide an exclusive interior design service for owners of new or pre-owned aircraft.

The Centre's Group Sales Director Matt Mackenzie says that Celia's Knightsbridge interior design company cool10 will offer a personalised service for customers in the UK, Channel Islands and Spain as an additional option to that of the factory in Switzerland.

"PC-12s are always built to order and can be personalised with special liveries and a range of luxury materials for the interior," he says. "We believe that Celia's experience and eye for detail will be appreciated by potential buyers and even existing owners who may wish to refresh their aircraft."

Celia herself says: "Some people may like just a plain plane but I believe that we can create a very personalised and stylish designs to take the 'wow factor' even higher!"

The UK Pilatus Centre, which acts as sales distributor for the PC-12 in the UK, Spain, Channel Islands and the Isle Of Man, has to date sold 40 new $4.6 million PC-12s. See www.pilatus-uk.com

Single across the Pacific

*It might be a PT6 but there's still only one engine – **David Plange** flies an overweight Caravan across lots of water*

While most people were finishing off the remnants of their Christmas turkey, I was busy doing the flight planning for my first trip of 2013, and it was new territory for me. As a company I have moved a few aircraft across the Pacific; this was to be the first one that I had chosen to fly.

I know the Cessna Caravan well and have a fondness for it – at least when it is within its design weight envelope. But more of that later.

This was a brand new zero-time aircraft apart from the 2.5 hrs acceptance flight and it was heading to Cessna Pacific in Singapore. I boarded a BA flight from Manchester to London on Friday January 4th at 09:55 and transferred to an American Airlines 777 to take me across to Chicago. Then there was a quick change onto an American Eagle CRJ which took me into Wichita Mid Continent Airport. My buddy was waiting there to collect me upon arrival at 20:50 and after a quick salad and a steak sandwich, it was back to his house to finalise the expenses for the trip and get some much-needed rest.

Up bright an early next morning and across to Cessna to load up the aircraft. The first leg was short at just 1,200nm and was scheduled to take eight hours with a slight headwind. The weather was pretty clear all the way, which allowed fantastic views over the Rocky Mountains and a breathtaking view of the Grand Canyon flying almost directly over KGCN, the Grand Canyon National Park Airport just off the rim of the canyon itself. By chance my track also took me overhead the aircraft graveyard in the Mojave Desert,

an unexpected point of interest and something I'd always wanted to see. I landed early evening at Santa Maria, on the Californian coast north of Los Angeles, and ducked into the Radisson hotel for a quick bite and early night.

I was scheduled to depart out of KSMX at 0730 with a flight time of 14 hours to Honolulu. I was up at the crack of dawn and was collected at 0600 to go across and fuel the aircraft. The weather was light rain but the radar showed some moderate to heavy precipitation in the area. Between rain showers, the refuellers were able to fill up the wings whilst I watched from the comfort of the FBO, but then it was my turn to top off the ferry tanks which numbered three in total and each held 170 US gallons of JetA1.

Once refuelled and with my flight plan accepted, it was time to head out across

Above left: author David Plange at Sturgate prior to departure
Above: Cessna Caravan, equipped with the ultra-reliable PT6 turbine

Google Earth

Above: overhead the aircraft graveyard in the Mojave Desert
Left: liferaft at the ready, should the need arise to paddle home
Lower left: ferry tanks had to be filled with special care

the ocean. I was assigned the Buelt Two departure, and I had to explain to the controller I was unable to comply as I had the climb performance of a baby elephant. The Grand Caravan performs well up to its gross max of 8,750lb or thereabouts. Take it out to 30% over and at 11,375lb, it is a completely different beast! Add in some terrain, low cloud, wind and moderate precipitation and you really have got a workload to deal with. Bear in mind that it's illegal to use the autopilot when in an overweight condition, for obvious reasons.

The ground roll took some time. Eventually the aircraft lumbered up to around 75kts and decided to lift its nose and take a look, but still it wasn't sure. Gradually it came to the reluctant realisation that it would have to leave the earth or run out of tarmac, and it sagged into the air. As we climbed past 500ft I slowly, very slowly started to ease in the flaps, the stall-warner still bleating and the Ground Proximity Warning System in party mode with its "pull up, terrain" ringing in my ears.

I eventually made it up to 4,000ft and was cleared to the first waypoint and told to contact San Francisco on my HF assignment prior to reaching the waypoint.

With a very heavy aircraft, a 50kt cross wind, zero visibility and trace icing until I was able to reach above 8000ft, the first hour was pretty hard work. Eventually things settled down and I was able to get relatively comfortable to face the 2,200nm of Pacific Ocean ahead of me.

There wasn't a real lot to see once I was on top of the overcast layer, and it would be night before I landed in Honolulu some 14hours down the line. But while it sounds like you'd have difficulty in keeping yourself occupied, in fact there's always something to do and the time passes quite quickly. Apart from the regular navigation, met and systems checks, the majority of the time with such an overloaded aircraft is spent managing the fuel system to ensure you remain in balance.

As I approached Hawaii, the controller was eager to learn how the flight had gone and showed genuine interest. It was nice having someone to talk to, as the HF ops and position reports were very routine. Those controllers have a pretty hectic workload so they don't have the time or the inclination to engage in idle banter.

I landed around 1945 and decided to get everything out of the way so that there were no delays to my 0730 scheduled departure. By the time I had refuelled and cleared customs, it was almost 1030 and I needed to get some rest, so I accepted a lift from the handler across to the hotel, arranged an 0600 pick-up, had a quick shower and got to bed.

I had thought I was destined for a lie-in the following morning as I was originally scheduled to fly up to Midway, which is the world's largest nesting colony of albatross, or Gooney Birds, as they are known. The birds are a protected species, and it is not permitted to land during daylight hours in the months from October to August. The schedule would then have me flying on to Saipan, but at a late stage the plan was changed and I flew instead by a more southerly route.

The weather was fine next day, and better visibility allowed me to see a little more as I climbed out once again. This time I was destined for Majuro, an atoll in the Marshall Islands, about halfway between Hawaii and Papua New Guinea. I had seen this place many times on photos on the internet and I was enthusiastic about finally having the opportunity to land there. It's a very narrow atoll island, often not more than a few feet wide and it has a main track which runs the length of the island. Again, the first eight hours of the flight were pretty uneventful – even crossing the International Date Line was a non-event. It meant remembering that the next day on the outbound flight plan, the date would be the same as the day before. Actually, written like that it sounds more complicated then it really is.

Eventually, in the limitless something in the distance far below caught my eye. I reduced the ranges and found a tiny little dot. This was Johnston Atoll. As I got closer I was reminded of the old Bounty advertisement which referred to paradise – blue lagoons, white sands, gently rolling surf. It looked very inviting. I later read that

the atoll was used in the 1950s and 1960s for nuclear weapons tests, and until 2004 it was a dumping ground for chemical grade weapons, nerve gas and suchlike. Maybe it wouldn't have been such a good landing spot after all?

Again the winds were slightly stronger than advertised, so it looked like my landing at Majuro would be at night, which left me feeling slightly disappointed. I had really been looking forward to taking

some video footage of the landing. I flew the GPS approach onto runway 07 with 14kts across the runway and driving rain – all you need after another 14 hour leg!

The fuel handlers were on hand to get me topped back up, then I had to reposition the aircraft as they had an early morning departure. Again it was the same routine, with a lift to the hotel down a single track road. I could tell I was getting closer to the Equator as the weather was warm and the humidity high. I eventually found my room and went down for a quick, well deserved beer and some local food. I had plenty of Imodium Instants, the airman's friend, and was by now needing a change from my packet and tinned food stash in the aircraft. The food was edible, and once again it was time to retire with a taxi booked for 0600.

The schedule now had me heading directly to Babelthuap island, Palau,

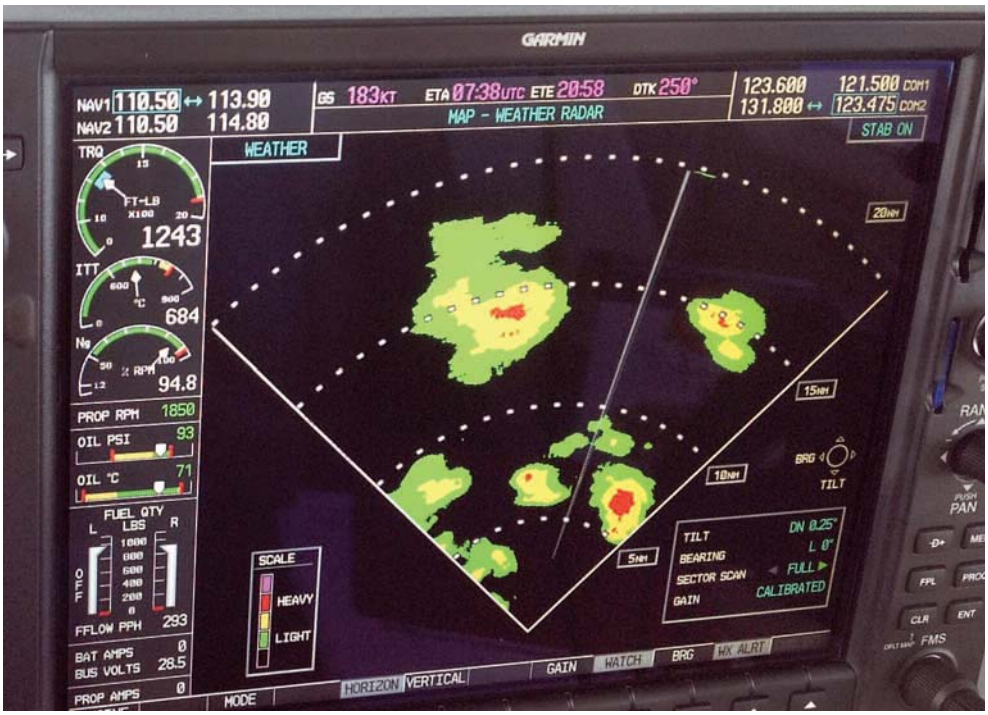
Top left: Johnston Atoll, a tiny speck in the Pacific with a dark and sinister secret
Left: a sea of blue – Johnston Atoll as it appeared on the Garmin
Bottom left: coral atolls tended to be long, narrow ribbons of dry land

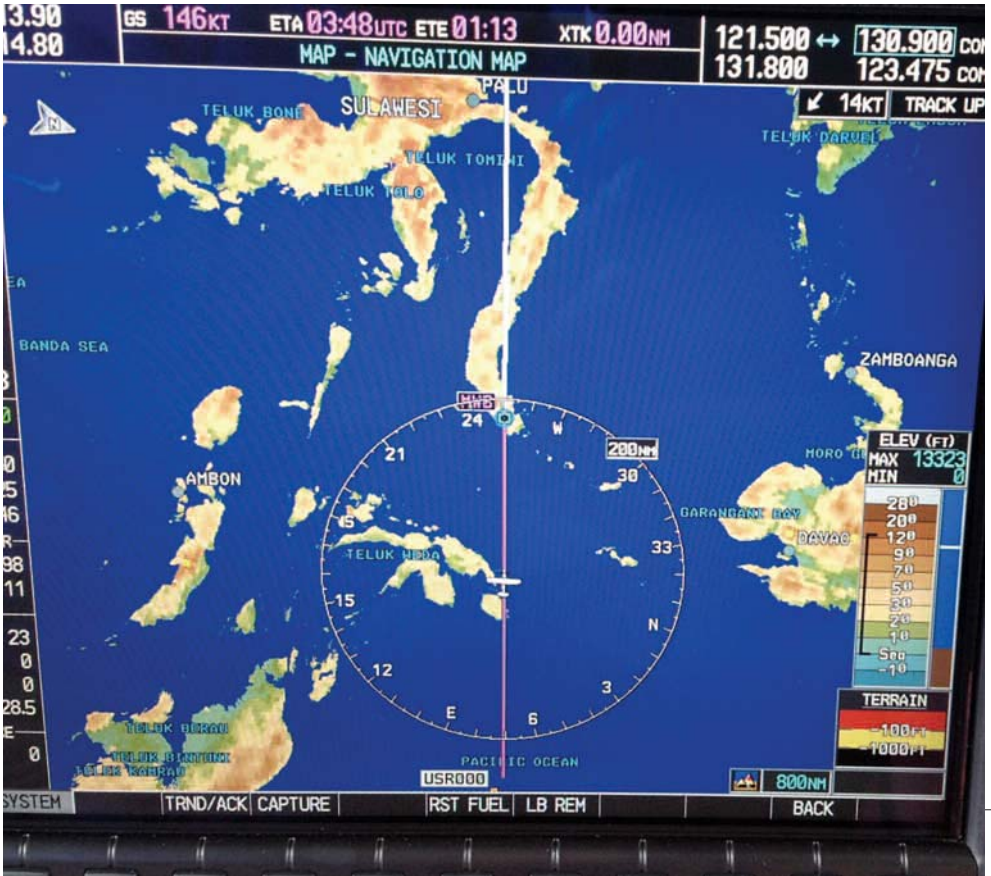
(PTRO). I was now flying close to and pretty much paralleling the equator. Unfortunately once again, out of Majuro, I was unable to engage the autopilot, so the video footage that I was hoping to catch was lost to me, but I did know that on this 13.5 hr leg, there would be some opportunities to see some of the outlying islands of Micronesia.

As I arrived in Palau, once again at night, I was greeted by a posse comprised of Customs, the airport police, the Ministry of Agriculture and the refuellers. After having shown my can of insecticide to the agriculture guy I was allowed to disembark from the aircraft and we set about once again replenishing the fuel tanks. Formalities out of the way, I was once again being transported to my hotel for the night.

At first glance, the Palatial looked like a decent place to be staying. It had wifi in the lobby, air conditioned rooms and a restaurant that had been recommended to me. I was pretty hungry and once again ready for a change in menu. I can usually eat pretty much anything but what was presented to me was largely inedible and the least said about that experience, the better.

The last leg was planned and was actually the shortest oceanic leg at only 1,875nm and was flight planned at 12 hours. Unfortunately due to a combination of much stronger than forecast headwinds combined with a 100nm deviation due to weather, it actually ended up being the longest leg of the whole flight with a flight time of 15:58hrs. I landed at Singapore's Seletar at around 1900 local time and was





Top left: flying overhead Truk in Micronesia on the last leg
Left: weather radar guided me around the worst of the tropical storms
Bottom left: approaching Sulawesi in Indonesia, close to journey's end
Above: the mountains of Indonesia – a welcome sight after endless ocean

greeted by the handlers.

The following morning was spent removing the tanking system and packaging up the re-usable components, straps, floor hooks etc, which are hard to come by. I had managed to have a decent breakfast, which was actually the first since I set off across the water, so I felt set for the day.

I had booked a flight out of Changi with Emirates back to Manchester via Dubai. It wasn't until I reached the boarding gate that I realised I was to travel on the A380. What a fantastic aircraft that is. I was able to get a fair bit of work done with the on-board wifi system, which was reasonably priced at $15 for 30mb. Sending emails and logging onto Facebook at 40,000ft was fun.

I arrived back in Manchester exactly a week after I departed and only then realised I had delivered a single engine aircraft across the Pacific in the same sort of time frame it takes to do a transatlantic delivery. No wonder I felt tired! It was not until someone mentioned it to me that I realised I had in fact accomplished my first circumnavigation of the globe on this trip – the thought hadn't struck me. Maybe one of these days I'll make a circumnavigation under my own steam.

Because of the time and date differences I was able to fly four consecutive 26-hour days. No wonder I felt tired. I did learn on this trip how much difference those time changes can really make to your circadian rhythm – that, combined with trying to get sleep whilst still mentally in ferry mode. I had difficulty getting back into a normal sleeping pattern when I got home to England, but as always, the sense of achievement makes it all worthwhile. ■

Flying lawyer ascends to new heights

Always a friend to pilots in need, Tudor Owen has taken over as Master of GAPAN. ***Pat Malone*** *reports*

The new Master of the Guild of Air Pilots and Air Navigators – GAPAN – is Tudor Owen, a man who has never been a professional aviator, yet has at times made a good living from aviation. Never an airline pilot, he has flown jet transports; never a military man, he was trained by the RAF. His flying experience stretches across more types than most, including helicopters and warplanes, and he has flown the Atlantic in a piston single. He confesses to feeling overawed in the presence of illustrious pilots, yet they in turn defer to his knowledge and skill and acknowledge their debt to him, for through his work he has improved the lives of all aviators.

In a long and successful career His Honour Judge Tudor Owen FRAeS established a reputation as the go-to barrister in aviation legal matters, often taking on unpromising cases and winning them. While he earned his due representing corporate clients – airlines, aircraft manufacturers, insurers and the Ministry of Defence – he frequently gave advice on a pro bono basis to pilots who could not afford to fight the cases against them. Tudor has always kept this quiet, but now that he has been elevated to the Bench – he sits as a Judge at Snaresbrook Crown Court and is known to the wider public for his incisive and perceptive treatment of those who inhabit his dock – it ought to be placed on record, despite his wishes to the contrary. AOPA members often benefited from his knowledge.

As a judge he has continued to improve the lot of pilots, setting a precedent when he jailed two youths for aiming a laser light at a helicopter. His judgement was upheld on appeal, and it paved the way for other judges to mete out similar punishments to combat this growing menace.

The law and aviation have always tussled for Tudor's affections, and the law has always won. Being able to combine both passions has been a godsend in his life. He has flown Moths with the Tiger Club, Harvards as a display pilot, King Airs full of newspapers on night runs, JetRangers on traffic patrol, Gazelles for fun. Through his multitude of friends in the pilot community he has found himself at the controls of some heavy and exotic aircraft. He's never been paid a penny piece for any of it, but it has underpinned a legal career unique for its in-depth understanding of this complex and often counter-intuitive business.

A son of the Welsh valleys, Tudor gave no thought to flying until 1971 when he was reading law at King's College, London, where he applied to join the University Air Squadron and was taught to fly on Chipmunks at what was then RAF White Waltham. He amassed 79 hours on the Chippy and was left with an abiding loyalty to the RAF. "The standard of training was superb," he says. "We had the same training as students being sponsored through university by the RAF and going on to fly fast jets. I would have jumped at the chance of an eight or even twelve year commission but those options weren't introduced until later. I would have been committed until I was 38 and, as I wanted to be a barrister, that was too long."

Lured by the theatre of the courtroom and always determined to walk that stage, Tudor joined the Chambers of Sir Arthur Irvine QC in the Temple and was called to the Bar in 1974. It takes a minimum of five years' hard labour to become a barrister, during which you are paid nothing, so a young man without private means must live frugally. He could have obtained a PPL by doing five hours cross-country at £15 an hour, but it was beyond his means. Career, marriage and mortgage took over, and when Tudor next looked up, nine years had passed. He wrote to the CAA asking what he needed to do to obtain a PPL. "They were very reasonable," he says. "All I had to do was the ground exams, two qualifying cross-countries and enough flying to pass the GFT. That turned out to be fifteen hours, thanks to the quality of the RAF training,

Left: Flying Lawyer in the left seat – this time in a Cherokee during a visit to Antigua

Right: a young Tudor with a UAS Chipmunk at White Waltham during the 1970s

Above: picture taken by Tudor of Ray Hanna about to display the Kittyhawk

Right: Tudor bought a Harvard with Mark Hanna with a view to graduating to the Spitfire

and I got my PPL on a Cessna." He went on to gain Night and Twin ratings.

Joining the Tiger Club, then at Redhill, Tudor flew the Moth and the Stampe and fell in with the truly exceptional warbird display pilot Stefan Karwowski. "My introduction to warbirds was flying in a Mustang with Stefan, with the late great Ray Hanna on the wing in his Spitfire Mk IX," he says. Tudor also flew with Stefan to air shows in various warbirds and often stayed on board during displays, in the days when they were more relaxed about such things.

Ray Hanna invited Tudor to join what later became the Old Flying Machine Company. He rode in the back of many famous fighters to air shows all over Europe, and on one memorable occasion flew to Sion in Switzerland in the back of the Kittyhawk with Ray Hanna in formation with the Spitfire, Mustang, Me-109 and Avenger. Tudor and Mark Hanna bought a Harvard and Ray offered them both the same opportunity – "if you prove yourself in the Harvard, you can fly the Spitfire" – but he realised that as long as he was building a career in the law he would never be able to devote enough time to reach the standard required for

displaying high-performance warbirds.

He had learned to fly the Harvard from a farm strip in Texas under the aegis of Lefty Gardner and Lloyd Nolan, founders of the Confederate Air Force. After a couple of weeks working at Warner Brothers Studios in Los Angeles representing the actor Jack O'Halloran, who had been injured while filming Superman II in England, Tudor came home via Texas where he spent a week with friends who had emigrated there. Nolan insisted upon one condition – check out in his Stearman first. "Lloyd explained, rather apologetically, that I first needed to get used to handling a big piston. Condition? I couldn't believe my luck! I spent the week flying two classic aircraft from morning till dusk."

Later he was due to fly the Harvard as a camera ship during the filming of the TV series *Piece of Cake*, but a last-minute change to his court schedule made it impossible for him to fly. "I can't remember what the case was now," he says, "but that's the way it has always been – my legal work had to come first."

In 1990 Tudor and Graham Horder flew the Atlantic in a SIAI-Marchetti piston single and suffered an unfortunate 'moment' in mid-ocean when the engine stopped. They had run the ferry tank dry as planned, but switching tanks didn't solve the problem; going through the checks again as they glided down revealed that they had neglected to switch on the fuel pumps. "It went very quiet," says Tudor. "We laughed about it later but it wasn't funny at the time."

At the same time he was flying the King Air as pilot's assistant on newspaper delivery runs to Copenhagen, Rotterdam and Bergamo after work on Fridays and Saturdays. Most of the pilots were more than happy to let a keen assistant do all the flying so he got a lot of stick time. And until it was prohibited following 9/11, he flew in jumpseats to Europe and America with airline pilot friends, returning hours later in another jumpseat, just to gain knowledge of their work which he could put to good use in his own.

Many of the top pilots broke the limits sooner or later

Tudor's involvement with City affairs began in 1987 when the Secretary of State appointed him as an Inspector to conduct investigations on behalf of the Department of Trade and Industry. He went on to conduct several investigations over the years and also prosecuted cases for the DTI. In the same year, he was elected to the Bar Council, serving two three-year terms and becoming a member of the Executive Committee.

Tudor's sidestep into aviation law began at air shows when pilots who were in trouble with the organisers for low flying sought his help. "Many of the top pilots broke the limits sooner or later," he says, "and one day, Stef asked me to go with him for moral support when he was called before the flying control committee. The other pilots pulled his leg for having his own lawyer in tow but, in time, others got into trouble and they'd sidle up to me and ask me to accompany them…

"Then one of them was prosecuted by the CAA for allegedly low flying in a vintage jet – not at an air show – and I defended him in court. He was acquitted. The news travelled, and that was the beginning of my aviation practice." It expanded from defending pilots in the criminal courts to advising and representing corporate clients in multi-million pound civil actions arising from fatal accidents.

In 1995 Tudor found himself representing an operator charged with breaching the ANO. He fought the case successfully and was taken for lunch at a country house hotel in a company helicopter. The rotary bug bit, and he obtained his PPL(H) on the Robinson R22

Left: Tudor at the helm of HMS Illustrious, an unusual and welcome perk of the job

Below: while representing the MoD Tudor flew several S&R sorties in Sea Kings

before doing a type rating on the JetRanger. To consolidate he flew 25 hours in a week on the KIIS-FM traffic helicopter in Los Angeles, landing in confined areas, on rooftops, and on pinnacle pads in the mountains. Then he converted onto the Gazelle with Al Gwilt, a former member of the Blue Eagles Army Air Corps helicopter display team.

In conversation, Tudor talks of his legal cases the way a test pilot talks of great flights, relishing the twists and turns and deriving satisfaction from the fact that others who followed could profit from his precedent. His understanding of aviation has enabled him to successfully defend many pilots and companies taken to court by the CAA. During his career at the Bar Tudor was often critical of the CAA's approach to prosecutions, which he thought often owed little to the merits of the case. Prosecution would involve the defendant in huge legal costs – of both sides if convicted – and there was always a risk that an innocent man would take the less-costly option of pleading guilty when he could have fought and won in court, and thus a miscarriage of justice would have occurred.

"In most criminal matters, the Crown Prosecution Service first assesses whether there is sufficient evidence to prosecute and then, if there is, whether prosecution is in the public interest," Tudor says. "In aviation matters, there is no independent review. That sometimes results in pilots having months of worry, and often being put to considerable expense, before they are acquitted. In many instances a meeting with the CAA – no tea or biscuits – would be far more productive.

"I believe strongly that an 'investigate and educate' approach in which those involved can speak freely and, where appropriate, learn from the experience does far more to enhance flight safety than prosecution. That can't happen when pilots whose actions are being investigated know they are at risk of being prosecuted if they admit doing anything which might amount to an offence."

there was always a risk that an innocent man would take the less-costly option of pleading guilty when he could have fought and won in court

Tudor regularly prosecuted very serious criminal cases but always appeared for the defence in aviation cases. "I didn't want to prosecute pilots but, under the Bar's 'cab rank' rule, I would have had to do so to the best of my ability if the CAA had chosen to engage my services. Fortunately, they didn't. They saw me as a defender and that suited me very well."

Although he continued to do some criminal cases, Tudor's specialised in High Court civil actions in which being a pilot was an advantage. When a detailed knowledge of aircraft ops would assist, he flew or flew in the aircraft type whenever possible. When representing the MoD following a fatal accident, he flew several Search and Rescue sorties in an RAF Sea King, which he found fascinating as well as helpful. Preparing for another fatal accident case, he flew in a microlight of the type which crashed. "It was very useful for the case", says Tudor, "but I didn't come away with an urge to do it again!"

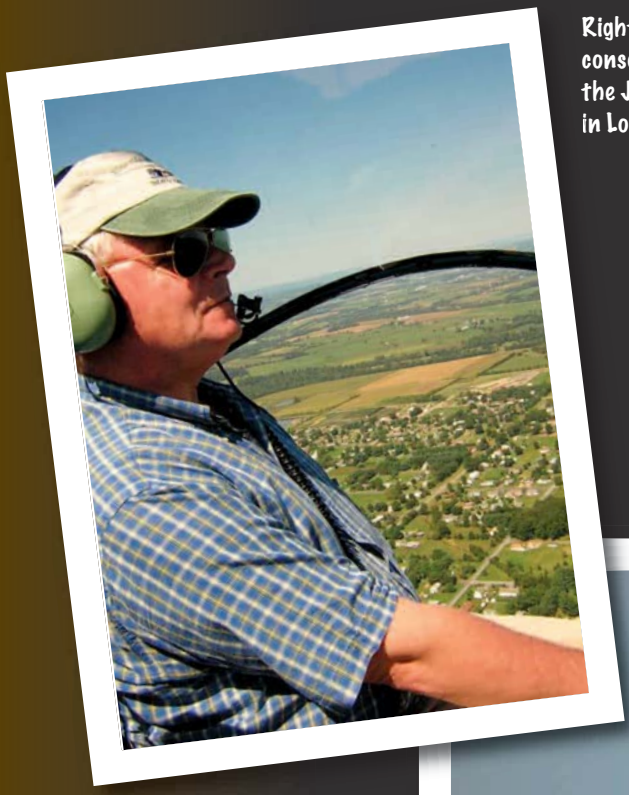
Tudor has always taken every opportunity he can to fly with professional pilots. "Learning from them improved my own flying and it also helped enormously in my legal work because it gave me an understanding of what they were doing and why. Clients found it easier to explain to someone who understood the language, and it helped me when cross-examining witnesses. I always loved cross-examining, that's what I missed most when I became a judge."

➔

Right: Tudor with Cessna 210 at the beautiful Stellenbosch airfield in Sotuh Africa

Below: learning what microlights were all about was just part of the job

Bottom right: Tudor flew the Old Flying Machine Company's Yak 11



Above: Tudor graduated to helicopters following a court win

Right: Tudor consolidated on the JetRanger in Los Angeles

Right: at the controls of a 1948 Bell 47G-2 in Virginia, USA

Left: through his many friends in aviation Tudor has been able to sample many exotic types like the Huey

Right: visiting Chateau Ste Sabine near Dijon in the nicest possible way

Above: on the Buchan oil platform in the North Sea with a Bristow Super Puma

Top right: Tudor's favourite helicopter, the Westland-built Aerospatiale Gazelle

Above: at Sikorsky in Connecticut with the renowned test pilot Nick Lappos

Left: at Igor's desk, preserved as it was when the great man used it

On one occasion, he cross-examined a Senior Inspector of the AAIB in a fatal accident claim arising from the crash of a commuter airliner. "He was a good expert witness, entirely objective and prepared to concede points when cross-examination exposed a flaw in his reasoning. I was introduced to him later at Heli Expo but he didn't recognise me until I said we'd previously met across a crowded courtroom and I was wearing a wig. He said he remembered thinking my first question was a good one… then I asked him another, and he thought, this barrister has been thoroughly briefed. He said it was when I changed topic for a third question that he realised I actually knew what I was talking about. He jokingly suggested that barristers who are pilots should be required to wear a discreet brevet on their gowns for the benefit of unsuspecting expert witnesses. Well, I assumed he was joking."

Tudor's last case at the Bar, in 2007, was to have been defending a murderer at the Old Bailey. "The defendant, who had some mental health problems, sacked me on the first day of the trial saying I didn't understand his defence," he says. "There was some truth in that. He then added for good measure that I was useless. My friends took great delight in pointing out that his mental health problems obviously weren't that bad."

It meant Tudor became available for a case he thought he'd have to decline. "I'd lost count of the number of murder cases I'd prosecuted or defended over the years, but what turned out to be my last case at the Bar was in a magistrates court. That was very appropriate in three respects. I'd cut my teeth around the magistrates courts as a young barrister so it took me back to where I'd started. Secondly, the expert witness was Jock Lowe whom I'd first met when representing BA and we'd gone on to do several cases together. And finally, because I was representing a pilot accused of low flying in a vintage jet. Winning that last case gave me as much satisfaction as winning my very first, 33 years earlier. And the icing on the cake was 45 minutes flying a Hunter. Wonderful!"

Judge Owen set a precedent in 2008 when he jailed two youths who had aimed a laser at a police helicopter for several minutes. Creating such a precedent is always risky for a judge because it's bound to be appealed. Having stuck his neck out, Tudor was gratified that the Court of Appeal not only upheld his sentence but repeated his warning that those caught pointing lasers at aircraft should expect custodial sentences.

(As an aside, since that case the CAA through the DfT has created a specific offence of aiming a laser light at an aircraft but, inexplicably, the maximum sentence is a fine.) ■

My mini airliner

The Extra 400 definitely divides opinion. The other day a BA 747 pilot asked if he could take some photos of mine because "it's one of the most beautiful light aircraft around." On the other hand, to a friend and fellow pilot it looked "like a pot bellied pig." Although never having considered it in quite those terms I have to admit that when I first set eyes on the Extra I thought "that is not a pretty plane – it looks like Deputy Dawg!" And yet here I am the proud owner of one.

I saw it at the Aero Expo in Prague and met the designer, Walter Extra, better known for a stable of outstanding competition aerobatic aircraft. It turned out to be a 500 rather than the 400, essentially the same plane with a turbine engine. Listening to the designer describe the thinking behind the design – the improved stability with the high wing and the important fact that the main wing spar is out of the way and doesn't intrude into the cabin; the fact that the structure is mainly carbon fibre and is immensely strong; the aerodynamic cleanness of it, no rivets, no visible fixings, nuts and bolts all tucked away – for example the flaps are driven by concealed worm drives and feel like something off an Airbus – I began to look at it differently. I could see that visibility was surprisingly good and the cabin was roomy and comfortable. Walter Extra had flown this particular plane across the Atlantic several times and his enthusiasm for it was compelling... and contagious. There were just two problems: the 500 was not yet in production and the projected price tag was well north of a million euros, (un)comfortably beyond my budget. I made apologetic noises and prepared to move on. He mentioned that if I could not afford a 500 then maybe I should look at a 400, its piston-powered forebear, some of which were available second hand. The idea was planted.

Right: Extra 500 is a turbine-engined version of the same aircraft
Lower right: the Extra's likeness to Deputy Dawg is in the eye of the beholder

Over the next six months I looked carefully at what was for sale within my budget on all the main aviation websites. The shortlist came down to a Piper Saratoga, a Malibu Mirage, a five-seat Rockwell Commander 114 and the Extra 400. The Cessna Stationair never made it onto the list, and for some reason neither did the Beech Bonanza. The others were progressively eliminated. I suppose I was using the Extra as a benchmark so perhaps was already slightly biased, but compared with it, just about everything else fell short. The Saratoga felt like an older design, was less roomy and less comprehensively equipped (no de-icing, no pressurisation, lower ceiling). The Commander had similar drawbacks and restricted rear seat leg room. The Mirage is a direct competitor to the Extra, although the German plane's composites and carbon fibre seemed more appealing than the all-metal construction. Although they are a similar size the Extra feels marginally roomier and the high wing means that there is no main spar to clamber over when getting into the front. Of the four, only the Mirage and the 400 were pressurised. Importantly, similar aged Pipers tended to be more expensive than Extras I was looking at. The Extra's flight into known icing and weather radar also looked attractive. Every time I looked at the alternatives, the Extra seemed to get more attractive.

Austin Brown

There are very few Extra 400s for sale. Only 27 were made before it was changed to the turbine 500. Perhaps the singular looks discouraged some. The fact that they

Unusual-looking but very capable, the Extra 400 will take six people 1,000nm in airways comfort, as ***Nigel Jackson*** *reports*

Looks-wise you either love the Extra 400 or you don't – it certainly can't be mistaken for anything else

Peter R March

Peter R March

Austin Brown

Above: Extra is based in Dusseldorf and most 400s are on the D-register
Left: pilot lends scale to the high-winged 400, which is roomy inside and out
Below: main wheels create serious drag, useful for late descents
Right: pre-flight checks include oil and coolant, co-located in the nose

were originally offered at over €1million each probably played a more significant part. Of the four advertised at the time, a couple were in the US with the ferry and VAT implications that go along with bringing them over here. One in Germany, priced in Euros, was too expensive. One, serial number 19, first registered in 2001 and on offer in the UK looked more manageable, and after an annual, a couple of test flights and some protracted to-ing and fro-ing I eventually became its proud owner in June 2010.

The Extra 400 requires a type rating in Europe but this plane was on the N-register which had two effects: one, a type rating was not required as a complex high performance single rating suffices in the US; and two, I needed an American license if I wanted to fly it outside the UK. An IR is also essential if you want to make best use of a plane of this sort. So the month after the purchase saw me in the US sorting out a license and obtaining an American IR while I was about it. Century Air in New Jersey is a reputable outfit run by a gruff ex-American Airlines captain with about 28,000 hours who is demanding but helpful. They kindly but firmly packed me through the training in three weeks.

The Extra 400 can be summarised as a six seat, high performance, pressurised, retractable, liquid cooled, turbocharged single engine piston plane. Its original product description leaflet described it as "the world's most advanced, fully equipped single engine piston aircraft suitable for private and corporate operation". Be that as it may, it certainly aimed to be completely modern in its approach and in many respects succeeded. As mentioned, the structure is built using composite materials with plenty of carbon fibre and is evidently immensely strong. The exterior is sleek and smooth with a minimum number of protruding items. There are no rivets and very little in the way of accessible mechanisms. It is clear that with the undercarriage retracted it becomes pretty slippery.

Avionics just predate the Garmin/Avidyne glass screen era, but were state of the art and cost a fortune when installed. On the pilot's side there are conventional instruments for airspeed, turn coordinator, altitude and rate of climb. Placed centrally between these are two four-inch Honeywell EFIS displays. Technically these are 'glass' displays and you need glass cockpit sign off to use them. The upper one (EADI) functions as an electronic attitude indicator and also provides flight director indications. Usefully it includes a runway position symbol and glideslope indicator which function as extra guidance and a backup for the normal localiser/glideslope on the lower display. The lower unit (EHSI) is the horizontal

situation indicator. Its core function is as a standard DI with a heading bug; it is slaved to built-in wing tip compasses so it doesn't need to be adjusted in flight. It also displays nav courses set in the GPS, VORs, localisers and glideslopes, weather radar, DME, GPS waypoint distances and groundspeed. The format can be switched between a compass rose and an arc format. As a failsafe measure if either the upper unit or the lower unit fails a button on the dash combines both displays into one on the surviving unit.

The displays are fed by two Garmin 430s (combined Nav, GPS and comms units) and are linked to an S-TEC 55 autopilot. The autopilot supports heading, Nav and GPS modes for direction and altitude hold or target altitude with user set-able vertical speed mode for pitch. It will fly ILS approaches to minima if you let it. In general the autopilot works fine. In the cruise you can programme the route, set it and just about forget it. It is less good at approaches, especially in windy conditions. I usually hand fly the last 500 to 700 feet of an instrument approach. A yaw damper is an upgrade I will probably consider when funds allow.

The co-pilot instruments are conventional and include four of the standard six pack namely airspeed, altimeter, attitude indicator and DI (non slaved). Turn co-ordinator and rate of climb are not included, a VOR with localiser and glide slope and a cylinder head temperature gauge take their places. A dozen Moritz engine and system gauges with analogue and digital readouts are split 50:50 each side of the comms stack in the centre. These are clear, accurate and easy to read.

Pressurisation controls are simple and work well. Set the departure airport altitude on a single dial before departure, the cruise altitude on the same dial once established in the climb, and the destination airport altitude after you have begun your descent. The pressurisation then gradually raises the cabin altitude as you climb to a maximum of about 8,000 feet – giving a pressure differential of around 5psi at 22,000 feet – and progressively lowers it again as you descend, matching your destination altitude by the time you land. A squat switch triggered by the landing gear makes sure that any residual pressure is dumped on landing. There are a couple of other controls you can vary if you wish, but otherwise it just works. The pressurisation is fed from the turbocharger, so a drastic power reduction will quite quickly raise the cabin altitude. This means that you should reduce the power rather gently and not to too low a setting as you make your descent.

The plane has aircon, which is good but heavy on electrical juice. The two alternators can handle the load, but you need to make sure you don't run it all the way to shut down as it will drain the battery when the plane is running at a slow idle. The heating is not so effective. In bright sunshine even at 20+ thousand feet you will be perfectly warm in shirtsleeves. On a bitter winter day, however you will need to wrap up.

The plane is equipped for flight into known icing. Like most pilots I try to avoid icing, but it is reassuring to know that the plane can handle most of what might come its way. The wings and tail are fitted with pneumatic boots, the prop with heated pads and the pilot's side screen with embedded heating wires. The pitots, one on each wing, are also heated as are the static ports and the stall warning vane. A dedicated light on the pilot's side illuminates the wing leading edge so that you can see any ice build up in the dark.

The engine is a Teledyne Continental TSIOL550C turbocharged, fuel injected, liquid cooled flat six developing a maximum 350bhp. This sounds generous, but with the fully laden plane weighing two tonnes it is all needed. The liquid cooling does bring the benefit of not having to worry about shock cooling. The turbocharger allows it to develop its rated power up to a ceiling of 25,000 feet.

Fuel comes from two wing tanks filled from above like a Cessna. Maximum useable fuel is 404 litres which is good for about five hours plus reserve and a range of 750 to 1100 miles depending on altitude, power settings and winds aloft. Bournemouth to Scotland and back on a single tank of fuel is quite feasible. A useful detail is an anti siphon rubber flap just inside the filler cap. In the event of a

Lower left: electrical switches and circuit breakers fall easily to the pilot's left hand
Below: by the standards of complex singles, a clean and uncluttered panel
Bottom: centre console has cabin pressurisation dial and readout on top

loss of the fuel cap this prevents the fuel from being sucked out of the tank - a feature that really does work as I found out on a return flight from southern France last summer when I inadvertently left the fuel filler cap on the wing after filling up. We did go through some extra fuel, but despite cruising for two hours at over 20,000 feet we completed the trip fine.

The six seats are conventionally configured for a cabin class aircraft with pilot and co-pilot seats at the front then four seats in a club arrangement in the rest of the cabin. All seats are upholstered in soft leather and are generous and comfortable. The front seats are fitted with four point harnesses with inertia reel shoulder straps. They adjust for height and reach, moved via a simple handle under each side of the seat. I am 6 feet 1 and find that the leg room is fine with the seat fully back. Others up to about 6'3" have flown with me with no problem. If you are taller than that you may find that the maximum leg room is just a bit tight, although I believe that Extra can adjust the space between the front seats and the row behind to give another couple of inches if needed. Visibility is good from the front,

with the screen wrapping around the front binnacle giving a good view forwards and to the side. The pressurised structure requirements mean that the other windows are a bit smaller than a typical GA plane, more similar to an airliner - which is pretty much how it feels in the cruise at 23,000 feet.

If you fly more typical four seat GA aircraft, the Extra 400 feels quite large when you first walk up to it. The high tail is 10 feet up in the air and well out of reach. The high wing makes you feel rather conscious of its size and making sure that you don't hit anything as you taxy (although in fact the wingspan at 11.5m (38 feet) is about the same as a Cirrus and remarkably is 1.6m (5 feet) less than the Mirage although the Extra's fuselage is over a foot longer than the Piper's.) Maximum all up weight is 1999kg; maximum landing weight is the same. This limits useful load to just below 500kg, but avoids airways charges which start at 2000kg. Centre of gravity issues don't seem to arise. I have a spreadsheet set up which gives me the weight and balance and C of G results based on the values I enter and parameters from the POH. It does not require any special load placement to stay within the envelope.

The walk around format is more or less standard with a few additional items, as you would expect for a more complex plane. Non-standard items include prop de-ice pads, undercarriage door operation, gear switch down (a squat switch prevents accidental gear retraction on the ground – but who wants to discover the hard way that it has failed?), hydraulic fluid level and coolant fluid level. There are five fuel drain points, two on each wing and one under the engine which is a slight fiddle to get at. After two years I still prefer to use the checklist rather than do it from memory. There are no external steps on the plane so you do need a stepladder to re-fuel or to check the fuel tank contents.

Getting in and out is straightforward. The 'airstair' style single side door is split top and bottom. Open the door handle and the top half hinges upwards on gas struts. A further handle in the lower part of the door allows you to lower it to form entrance steps. The only key required for the plane is for the entrance door. The centre aisle allows passengers to change places with care, even in flight. When flying with a fellow pilot I have moved out of the front and gone to sit in the back to see how it feels – and the answer is pretty good. In the back you could just about manage without a headset, at least for a while, but as with all light planes it is more comfortable with one. The cabin is wired for Bose headsets to all seats.

Starting up is normal for a Continental injected engine. Boost fuel pump is not required for start up, but I find it starts better with it. When cold the engine starts first time just about every time. When hot it requires slightly more deft movement of the throttle and mixture to catch it just right.

Taxying for the first time you are aware of being higher above the ground than before, and it really feels altogether heavier duty than your average light single. Steering is via a steerable nose wheel helped with a bit of differential toe braking when required. It takes a bit of effort to steer at low speed and you need to push the pedals quite firmly. Taxy and run-up checks are normal enough, again with

Far left: serious amounts of legroom improve passenger comfort on long trips
Left: pressurisation system means windows are smaller than in other GA aircraft
Lower left: clamshell doors incorporate a step in the bottom half

additions for some of the systems. Non-standard items include aircon – off for takeoff – autopilot operation, pressurisation settings, ice protection and weather radar. Engine run-up requires minimum oil and coolant temperatures and it takes 5 or 6 minutes of engine running to reach these. At most airfields it takes five minutes from start up to reach the departure point anyway, so this is not a problem.

The turbocharged engine means that manifold pressure settings are higher than a conventionally aspirated engine. The standard "25 squared" for example doesn't work and you need to become familiar with the best numbers to use. Engine care and monitoring of temperatures and settings is important and this starts right at take-off. For most light singles the routine is line up, firewall the throttle and off we go. Again the presence of the turbocharger means that you don't simply firewall the throttle as you will overboost the engine. Instead you hold the brakes and advance the throttle to 39.5 inches MAP. This is about 90% of the throttle lever travel – full throttle will give about 41.5. At MTOW the handbook says the take-off roll with a 10 knot headwind is 450 metres. Given the perfect conditions you need to achieve POH results and the usual safety margins I wouldn't try it at anything much under 700 metres and prefer 800 plus as a rule,

and that is on a good hard surface. Of course more lightly laden you can get off most things fine, but the Extra is not a super short field performance aircraft. Grass is best avoided. The retractable undercarriage is ingenious and very strong, but is also very firm and has relatively small wheels and tyres. Even on a hard surface if you make a firm landing you really feel it. Taxying on grass is fine, but taking off and landing on it is like driving over cobbles at speed - not fun. My aircraft is hangared at Bournemouth and with its 2,400 meters of tarmac take-off roll there is never an issue. On the other hand I have flown the plane in and out of Bembridge, Alderney, Elstree and other short-ish fields and all are fine with care.

Once rolling, rotation is at 73 knots or a bit less if you are lightly loaded. Unlike the SR22 which fairly springs into the air the Extra needs to be specifically pulled off the tarmac, followed immediately by a small push forward to keep the attitude correct and let the airspeed build. This is different to what I had flown before, but takes about one takeoff to get used to. In reality it is just about the same action as a standard short field take off. If you want to just fly it off, and you have the room, you can let the speed build to 80 knots at which point it will just fly off conventionally. Gear goes up as soon as you have a positive rate of climb. The engine torque is apparent in the climb and it requires a reasonable amount of right rudder to keep the ball centred. On a long climb this reminds me that the yaw damper would be nice.

There are just two flap settings, 15 for take-off and 30 for a normal landing. Initial climb out starts at 80 knots, but it fairly quickly rises to 90 to 100. Flaps are retracted at the usual 5-600 feet and sink on retraction is more or less eliminated if you are at 95 knots or above. With the flaps up the speed moves up quite quickly. Best rate of climb is 100 knots which is OK for a short period, but the best speed for a long climb is 120 knots. Water temperature can get a bit high in a lengthy climb and 120 knots gives sufficient cooling for the prolonged high power. If it is unusually hot outside you may need to increase the airspeed a little which may mean a slight reduction in climb rate. Max power, i.e. 39.5" of manifold, should not be used for more than five minutes. Typically I reduce it to max continuous 37.5" or a little bit less and bring the prop back from 2600 to about 2500 rpm for the climb just after retracting the flaps. Mixture stays full rich and at this point the engine will be burning a fairly hefty 120 litres per hour. Climb rate at MTOW and 120kts is about 900 feet/min gradually decreasing slightly as you get higher. An uninterrupted climb to 22,000 feet will usually take a little over half an hour.

With a plane of this sort there are really two quite distinct sorts of flying: the normal VFR bimble at low altitudes and long distance IFR touring. The Extra is surprisingly good at both but comes into its own on the longer trips. At higher altitudes you can get the benefit of the thin air and the much higher true airspeeds that result, and strong following winds when they are available. It always disappoints me that in the cruise at 22,000 feet my airspeed still only shows around 130 knots at 65% best economy (about 185kts TAS) but then I look at the groundspeed on the GPS and feel much better. 40 to 50 knot winds are quite common above 20,000 feet and if they are in your favour it really makes a difference. The best I have seen was a ground speed of 253 knots on a trip from Dundee to

It's a family affair

In retrospect I started flying later than I should have. As a youngster I was keen enough. I read *Speed and Power* magazine avidly and dreamed of shiny homebuilts powered by VW engines. I had made diesel powered models as a teenager, but as I couldn't afford radio control they tended not to last long. Dad had been an RAF fighter pilot in the 50s and 60s so of course we grew up with plenty of aviation talk and some RAF air shows when I was small but not much actual flying exposure. In the end, time, family and money constraints and a niggling concern about safety meant that I did not really think seriously about it until my mid-forties.

After moving from Scotland to Bournemouth in 1995 I had a couple of trial lessons, but didn't actually start in earnest until 2007. I trained at Solent School of Flying, one of several schools based at Bournemouth Airport, on PA28s and passed my skills test in March 2008 after just under a year. From the outset I decided that I wanted to do more than just the local hops and the proverbial £100 burgers and went as far afield as the available slots on the club rental would allow, covering a big chunk of the south coast over the next two months.

Another month on and I completed the differences training required to rent a Cirrus SR20 based at Bournemouth. August saw my first trip across the channel in the Cirrus visiting Cherbourg and Dinard, and I was surprised and pleased to find that it was much more straightforward than expected. Emboldened, I went back to France with my (rather apprehensive) wife later in the month via Dinard, to Vannes and Quiberon, returning via Cherbourg. The SR20 was a great step up from the club trainer and I flew it regularly over the next year, clocking up about 100 hours. A night rating followed in March 09 followed later in the month by a couple of days in Guernsey training on Rockwell Commanders with Mike Perry at The Commander High Performance School to complete complex single and high performance differences training.

Finally I decided that any kind of distance flying really meant at least some competence in IMC. After looking at some of the theory knowledge required for a full IR I decided that neither the function of dipole aerial, nor the characteristics of long wave tunnelling were really needed to fly in cloud, and that I could also manage without a detailed knowledge of the sub committees of ICAO. The theoretical knowledge required for the IMC rating (far more significantly than the reduced

Left: Author Nigel Jackson in the right seat of his Walter Extra 400

Right: the 400 looks even better airborne than on the ground, with flaps and undercarriage retracted

Peter R March

Bournemouth which took two hours and 10 minutes from take off to landing including the climb and a vectored ILS.

As the whole point of acquiring the plane in the first place was to enable travel as a family we have tried to do this as often as possible. The longest single trip so far was Bournemouth to Dubrovnik in Croatia; 1015 nm covered in 5 hours 10 minutes non-stop with helpful winds aloft and some good bladder control by all on board! Other family trips have included three visits to the Dordogne (2 hours 20 minutes to Bergerac), a couple of trips to Scotland, landing at Glenrothes or Cumbernauld as the fees at Edinburgh and Glasgow are just too hefty; the Lake District, landing at Barrow in Furness; North Yorkshire, landing at Middleton in Teesdale; Paris, with a fantastic IFR approach into Toussus le Noble giving you a view of the whole of central Paris; and the Channel Islands.

Whether flying up high or at a lower level once the climb is done you naturally throttle back to your cruise settings. There are a range of these and I won't bore you with all of the permutations. I haven't tried keeping it at maximum continuous power - which means you don't throttle back at all, rpm remains at 2,500 and you should get around 230 knots true airspeed at 25,000 feet if you don't mind the plane slurping avgas at 110 litres per hour for the whole trip; to me it seems too hard on the engine, and just too expensive. I usually opt for 65% best economy. The "best power" settings are all rich of peak and the "best economy" are all lean of peak. If you have flown a Cirrus you will be familiar with the 'lean assist' function which simplifies leaning and make you much more conscious of its uses. The Extra does not have lean-assist so one simply uses a card with factory recommended settings. "Gamijectors" have been fitted to improve the fine control over the fuel flow. At 65% best economy the power is set to 31 inches, the RPM to 2250 and the mixture leaned to a much more palatable 59 litres per hour. Indicated airspeed is around 130 knots at 20,000 feet and about 150 knots

Nigel with wife Rosemary – the plane was bought for family trips

training requirement) seemed sensible and achievable and so although I knew that I couldn't use it outside the UK I felt that the IMC rating was an essential safety addition. An ILS at Bournemouth meant there was plenty of opportunity to practise approaches and by May 09 the IMC rating box was duly ticked. The IMC rating is rightly highly valued by all who have it and it certainly made a huge difference to my confidence both in the UK and beyond. Another first in May 09 was a more serious distance trip – VFR to Prague for Aero Expo with landings at Toussus le Noble in Paris, Pirmasens in Germany and on to the bumpiest grass field imaginable at Letnany outside Prague. The trip took most of two days to fly, and about a week to plan. The flying turned out to be much easier than the planning.

Later in 2009 the SR20 became unavailable but someone else at Bournemouth was offering a very smart SR22 for shared use. Shortly after being checked out on this, and after some protracted negotiations with the owner, a (non-pilot) friend and I joined Prepare2go's Pathfinder trip to Libya. This turned out to be a truly life enhancing experience. After a rendezvous at Cannes the route took us via Figari in Corsica to Tunis, Tripoli and five other destinations around Libya, flying and driving over sand dunes, passing ancient Roman ruins and even swimming in a lake in the Sahara, before returning across France to the UK, all VFR. With the guidance of the organisers this was much easier than it sounds. Although the distances were certainly much greater, in terms of difficulty none of it was harder than your average qualifying cross country, possibly easier as you are free to make full use of GPS aids and an autopilot if you have them.

By this time I had about 280 hours total, had done some fascinating things but, as is often the case in general aviation, nearly always with like minded blokes. This was fine of course, but I really wanted to do at least some flying with the family. I had taken my wife and three children on short trips at various times, but never together. The Cirrus was a delight to fly, but, as a four seater, trips for all five of us were not on the agenda. Starting to look around at what was available that would take more than four, I quickly found that the list, at the light end of GA, is not very long. Influenced by the comfort and modernity of the Cirrus I was reluctant to go back to the more basic older designs. Even with updated avionics, the classic staples of the six seat market have worryingly long pedigrees. Most of the designs have not changed for 50 or 60 years, something that says more about the stultifying effect and cost of regulation than it does about the perfection of the original designs. Then, at the AeroExpo in Prague I saw the Extra…

at 5,000. True airspeed will be about 185 knots and 157 knots respectively. This is 20% slower, but uses nearly 50% less fuel than max continuous.

As with the climb you need to be aware of the engine temperatures when setting the power for cruise, this time especially the Turbine Inlet Temperature (TIT). When running rich of peak the engine is not burning all the fuel in the mixture and the excess cools the engine. As you lean the mixture the combustion temperature rises along with the cylinder head temperature and the exhaust gas temperature. As the turbocharger is fed by the exhaust gases the turbine inlet gets pretty hot. The red line is 1750°F, a pretty scorching nearly 1000°C. As you continue to lean, the temperatures increase until you reach the peak; further leaning then results in the temperatures coming back down again. This time the extra air in the mixture lowers the temperature. Of course if you lean too far there is not enough fuel in the mixture and the engine runs rough or misses. There is a fairly fine balance here – lean too little and you will get very close to the TIT limit, lean too much and you will get the beginnings of roughness. It is not difficult to do, you just need to follow the settings.

Descents from altitude also take a bit of getting used to. Soon after I bought the plane I flew to Haverfordwest. Outside controlled airspace I made a leisurely climb to 6,000 feet. I hadn't really thought about planning a descent even from that modest level, with the result that I had 6,000 feet to lose in about 8 or 9 miles. Point the nose down and the Extra's slipperiness becomes very apparent. We ended up screaming into the circuit at 185 knots! From 23,000 feet you really have to plan it. Most controllers are pretty good at giving you descents in good time, but it is a good idea to have a plan in your head. Assuming a final approach altitude of about 3,000 feet and a gentle descent rate of about 600 or 700 feet per minute – I like to get my money's worth for all that climbing time – then the descent will take about half an hour. As ground speed will average 180 knots or more you will cover about 90 nm coming down! You can vary the descent rate but a good rule of thumb is at least 3 times your altitude for descent; at 20,000 feet this gives 3 x 20 = 60 miles. At first it seems a bit odd asking for a descent when you still have 80 or 90 miles to go, but you have to learn to do it or end up with an embarrassment of altitude later on. Naturally you will get your highest airspeeds in descent but with a VNE of 219kts indicated I have never got anywhere near the limit.

Flying airways in the cruise is a doddle. I have never understood why an IMC holder should not be able to do it. You are given headings and waypoints as needed, you are protected from other traffic and on a decent length of flight you can simply tweak the inputs on the autopilot, fold your arms and relax. The flight levels between 10,000 feet and the low 20,000s are little used by commercial traffic and are more or less empty for much of the time. The Extra certainly makes it relaxing.

On the other hand and for all its long legs this is a real pilot's aeroplane and can be flown hands-on with confidence and precision. It is not aerobatic but, as you would expect coming from the designer of aerobatic aircraft, does respond positively and accurately to the controls. I have a small group of users who fly the plane from time to time. All are experienced pilots and without exception they have all commented on how pleasing the aircraft is to hand fly and to manoeuvre. Steep turns are straightforward without needing increased power, stalls are pretty normal with just a slight tendency to drop a wing if you don't watch the rudder. This does get more pronounced with more power and I did give myself a bit of a scare on one occasion practising full power stalls with full flaps and gear down when the wing drop was bordering on vicious. Straight and level flight comes naturally and it is easy to trim out. Perhaps its best feature for general flying is the way it seems to smooth out the air.

My first couple of landings in an Extra 400 were not encouraging. A decidedly positive interaction with the runway would be a polite way of putting it. After a few more I found I was getting used to the higher seating position in relation to the ground and they started to improve. In the circuit downwind speeds can easily be 120 to 130 knots. With a limiting speed of 140 knots the gear goes down before flap. The gear really slows the plane down and you quickly drop to the 120 knots or below needed for the first stage of flap. On an instrument approach after a descent it is quite common to intersect the ILS at 140 knots or greater. The gear typically goes down at the final approach fix and this has to be my point for getting the speed back to 140 if needed. If you haven't put the gear down by that time you really have to cut the power almost to idle to get the speed down once you are descending on the glideslope. If you are doing circuits you may have to add power after putting the gear and first stage of flaps down. Stall speed is 58 knots in landing configuration (76 knots clean). This gives a final approach speed of about 80 knots, which is normal for a plane of this size. Since the best glide speed is about 105 knots this is well on the back of the drag curve, so the landing technique is to keep the power on all the way down to ground effect before removing it smoothly and flaring normally. The plane will settle quite quickly if you don't balance the reduction of power with enough flare, giving the firm landings I experienced at first. There is a definite tendency to touch down early. This is not a problem and you can land smoothly enough but a fully held-off landing works best if you can do it. Get it wrong and you will feel it, but even if you thump it down there is very little tendency to bounce; unless you are very fast, once you are down you are down.

Peter R March

Left: descents from altitude call for careful planning, and it's easy to get caught with too much height on finals

All in all I have become rather attached to the Extra 400. It feels like a lot of plane. I have decided that I like that fact that it is different and the quirky looks have grown on me. I also like that fact that it is quite quick and can cover significant distances in pretty respectable times, although I wouldn't mind being able to go faster still. Of course it would be nice if it was brand new with all the latest shiny avionics and glass cockpit stuff – but then again, apart from the usefulness of a yaw damper and the better accuracy of a digital autopilot it wouldn't make much difference in everyday use. If I could change anything it would be to add another 150kg to the useful load, and if money was no object I would go for the turbine version. As money is an object I can settle quite happily for a plane that is a good all rounder and certainly more capable than most. ■

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Smith vision pays off

Ten years have gone by since Mike Smith started talking about revolutionising the aerial newsgathering business by putting a single-engined piston helicopter in the air and selling footage to the BBC, ITV, Sky and anyone else who would pay. How we laughed! The charitable among us gave him a cat in hell's chance of pulling it off; if he thought he could do it, he obviously didn't know what had to be done. Wasn't he aware of the restrictions on the use of single-engined helicopters? Hadn't he got the first inkling of the fact that helicopters always let you down when you most need them? Does 'make a small fortune in aviation by starting with a big one' ring any bells? Anyway, it was his own money and he could squander it any way he chose. We'll give it six months.

What business did a showbusiness 'personality' – and a blond one at that – have thinking he could run a whelk stall, much less a complex high-tech business that was going to take on heavyweight competition in a perversely-regulated field where expensive obstacles abound. But a decade on, the words 'I told you so' are beginning to taste stale in the mouth. Smith's company, FlyingTV, not only makes buckets of money but has played a significant part in driving the extraordinary technological advances in aerial filming seen in this century. Old Smitty might be blond, but he's nobody's mug –he's turned out to be a natural businessman with a talent for getting every ounce of mileage out of his helicopters, his cameras, his people and his business systems. Ten

A decade on and the idea of running an aerial filming business with R44s doesn't look quite so dumb. ***Pat Malone*** *reports*

years on, he has much to celebrate.

Today he has two dedicated ENG (electronic news-gathering) Robinson R44s flying some 600 revenue hours a year and his company occupies a newly fitted-out hangar at Denham which also houses a dry-leased Twin Squirrel, for reaching those few parts that piston singles cannot reach. The business has moved far beyond newsgathering to encompass film and TV work and now addresses the aerial filming needs of property and transport companies and anyone else who needs to look down from above. And this is just the start. The company has ambitions to be the complete one-stop-shop for all of everybody's aerial filming needs – a tall order when you consider the disparate technological and artistic requirements, but looking at what Smith has done so far, you'd have to say he's the man for the job.

Above: Mike Smith at his workbench in the newly fitted-out FlyingTV hangar at Denham Above right: someone's doing okay… a FlyingTV company car with interesting registration

The secret of Mike Smith's success is his intimate knowledge of every facet of the business. His TV career gave him unique insights into how television works, what producers and directors need, what language they speak and how to ring their bells. It also gave him the contacts – not just the people who are nominally in charge but those lower down who make the decisions. He always was a technophile, seeking to understand how the kit that captured the pictures in the studio and got them to your telly worked, and he could explain the innards of a TV camera even while standing in front of one. He can talk you into submission about 4k, 1080 HD, SD, V12 and PAL, gyro mounts and transmission systems, and he's not bluffing. You know you should be writing it all down but your attention has wandered to the Porsches in his car park and you probably missed the important bits, but anyway this magazine is about aviation.

Mike brought his hunger for engineering detail to his helicopter flying – if he had the right papers, he could make a good fist of an R44 rebuild. What's more, he's got what it takes in the management department; his eyes light up when he sees a spreadsheet, and his business has not yet reached the size and level of complexity where he can no longer keep cost control pretty much in his head.

So with his unique insights into the TV industry, he never went into this business to be cheaper. He has always offered better, faster, higher-quality, more creative, added-value. Undercutting on price doesn't necessarily cut it with the BBC, which gets

£10 million a day from the TV licence racket and has other imperatives. Cheaper was just gravy; but cheaper hasn't done the business any harm either.

He's had to retain an element of flexibility, switching horses when some things were working and others weren't. "The original idea was ENG, following the model of the American market where demand for images drove supply," he says. "The proliferation of channels in the UK could have the same effect, and the aerial filming industry as it was at that time

Above: Mike Smith (left) and Mike Smith uncrate G-PIXX at Denham in 2004
Right: The way we were – Mike Smith with G-PIXX when FlyingTV first launched
Bottom right: the early days – brand new G-PIXX out touting for business

couldn't answer the demand." It didn't quite work out like that, but it was a reasonable enough premise to begin with.

As an insider, Mike has experienced all the problems associated with getting aerial footage for TV. "You'd have to find an operator with an AOC and a twin-engined helicopter," he says, "and you'd have to give plenty of notice because they'd be using the machine for charter work or whatever, and even if it was available it would take several hours to install the camera, and it might be a side-mounted affair that wasn't really very good. Then you'd get a pilot who didn't understand filming in great detail and the result would never be good. A news event would be over by the time you got airborne. As a broadcaster, I saw this all the time."

Robinson had been producing ENG helicopters since 2001 but the cameras were installed in FLIR mounts that shook themselves to bits in a year. "Quentin Smith of Heli-Air had flown an ENG R44 in Spain and was enthusiastic about it – he's been a great supporter and we owe him a lot – but when I saw the tape I knew the quality wasn't good enough," Mike says. "American TV stations are voracious consumers of aerial images and didn't have the same quality standards as we did in the UK."

But TV news needs images like an addict needs crack. Reporters will be sent out to be filmed in the middle of the night on motorway bridges in driving rain simply in order to avoid the anathema of showing a talking head at a desk. The political editor will be driven to Downing Street to stand outside No 10, muffled against the cold, to deliver a report he'd be much happier talking through in a nice warm studio. And the quickest and most interesting way of gathering images is often from the air. In exceptional circumstances the viewer will be treated to a landscape fringed by rotor disc shadow and blurred by Perspex, raindrops and one-per tremble, covering the general area in which an unfortunate event has occurred. Dub a bit of turbine (never piston) noise over it and Bob's your uncle – at least it's better than a reporter standing with a mike in front of the rotating sign outside Scotland Yard. But Mike knew from the start that quality and creativity were key.

"The main advantage of the single-engine helicopter is that it's cost-effective to dedicate the aircraft to filming and you don't have to spend time installing and removing the camera equipment. Thereafter, low operating costs improve your offer, but not as much as you might think. Without the best camera equipment and the talent to use it to the full, you will fail."

When Mike began setting up FlyingTV his international headquarters was a shelf in the old Heli Air building at Denham. "I didn't even have a room, just somewhere to put my laptop," he says. "Heli-Air were fantastic, and I've rewarded them with my business down the years. I've probably spent £1.5 million with Heli Air, and they still do my maintenance. But at some point I had to stop thinking about it and put my

Monica Wyer, Mike Smith and Jonathan Penny with the zero-houred G-PIXX

money down. So I bought G-PIXX."

It was an ENG model, but not the RHC cookie-cutter version. The technical standard was completely different, geared to European specifications. Mike placed the order at Helitech in 2003; it arrived in April 2004 and was assembled by Heli-Air, and on May 12th 2004 it was granted a Certificate of Airworthiness. A few hours later FlyingTV got its first commission, from BBC Sport for coverage of the opening races of the season at Goodwood on May 18th. However, on May 17th BBC news called with an urgent request for aerial shots of 'something big going on near Heathrow'. G-PIXX launched within 15 minutes and was able to collect news footage of the fabled Heathrow Heist, an attempt to steal £40 million worth of gold bullion from the Swissport cargo warehouse. It was an auspicious start. News jobs came intermittently – when G-PIXX was sent to Belmarsh Prison to film the arrival of a high-profile terrorist, it had completed the job and left the area before the Sky News Twin Squirrel arrived overhead and missed the action. But it wasn't until the 7/7 bombings in 2005 that BBC News realised it needed a contract.

"We were up in Scotland for the G8 summit at Gleneagles and the associated riots in Edinburgh," says Mike, "and that Friday morning we had a call from the newsdesk saying there'd been a power cut on the Tube and we ought to relocate to London. I said that sounded like a poor reason to move a helicopter the length of the country but they thought there was more to it than that… we were over London within three hours. At the same time they tried to get a twin from Norfolk but it was defeated by the weather. We flew 50 hours in two weeks, going all over the country following the story, and the BBC realised they needed more than an ad hoc arrangement with us.

"But given their mindset, they specified a twin, saying there were parts of London singles couldn't reach. In fact there are very few – 98 percent of our work is done in the singles. We can sit over Trafalgar Square and with the gyro-stabilised digital zoom we can achieve 88 times magnification with excellent quality."

In 2006 Flying TV ordered their second helicopter, G-PIXL. "We were getting a lot of work, and maintenance on G-PIXX was restricting us," Mike says. "In Britain, maintenance schedules are needlessly strict, much stricter than RHL ever intended, and the business was losing G-PIXX for about seven weeks a year. We had to have two machines to make sure we always have one available."

From the start Mike knew that high-definition (HD) technology was the way ahead, which meant serious investment in new cameras at $265,000 apiece. (They now have three.) The American market was slower to adopt HD so he had to push Robinson in that direction. "To their credit RHC have put a great deal of effort into improving the technology," he says. "They're the only helicopter company with a dedicated TV department, and the quality now is very high, using gyroscopic stabilisers from cruise missiles. RHC was

very receptive to input from the industry, and we pressurised them to get ahead on HD technology, which I knew was going to be a game-changer.

"What eventually happened was that Ikegami sold us a £30,000 HD camera and we engineered it to fit a twelve-inch ball, got the approvals and told Robinson, who now offer it as an option."

The move to HD in 2008 brought in all sorts of new work, including TV commercials and film shoots – in fact, the BBC now accounts for only 8% of the business. FlyingTV has always been heavily involved with programmes like Top Gear but they've done horse racing for seven years, the Grand National for five, the Boat Race for seven. The Grand National showcases all the skills, talents and teamwork that make FlyingTV indispensable to sports broadcasters.

"We're conscious of the fact that we're only one of 40 cameras at the National," says Mike. "They take us live on a continuous shot. I'm directing from inside the helicopter. You're flying along, and at the jumps you have to pause long enough to capture all the action, then rush to catch up with the leaders. For the pilot there's a lot more to think about than safety, the wind direction, the limits of the exemption and making sure he doesn't get the skid in the picture. The camera operator has his or her head in the hood and has a degree of flexibility on the shot, depending on what the pilot allows. I count them into the jumps, five, four, three two, one… and frankly it's the longest 15 minutes of my life."

Mike says that to be a successful camera operator you need to be able to fly a helicopter, in order to understand what's happening and what's possible. His main operator is Monica Wyer, a helicopter and fixed-wing pilot who flies aerobatics in her own RV-8, and who says she never gets sick in the helicopter. The three professional camera operators FlyingTV uses were all students at HeliAir. The company's pilots have been taught how to 'fly the shot' on the job. "It's experience you have to have in order to appreciate what the shot really looks like from where you're positioning the helicopter," says Mike. "You have to spot things the camera operator can't see, you have a much wider field of vision, you're part of a creative team. Of course safety comes first, and the flight planning, the rules and regulations and the separation, but often you have to multi-task in a unique way.

"Talent is the most important thing. The whole team must be looking to create something out of nothing, to tell a story… if you look on it as just a flying job, you've missed the point."

Left: the camera operator's equipment takes up both rear seats
Above: FlyingTV's first news job was filming the £40 million Heathrow Heist

Chief Pilot Jonathan Penny thinks the best attribute for a camera ship pilot is to also be an instructor. "You've got to be sympathetic to your aircraft and handle it with kid gloves," he says. "But you've got to be thinking of everything that can possibly go wrong, and what you're going to do about it. Flying the circuit at Silverstone at 100 feet (with an exemption to Rule 5), for instance, you're thinking about where you'll put it if the engine fails at any point, staying within the helicopter's safety margins, and a lot of twin pilots don't think that way. The instructor is used to routinely handling the aircraft in simulated emergency conditions and is constantly capturing information – he never has an idle moment. As an examiner I've done line checks or OPCs on commercial pilots who are not instructors, and the difference in the depth and quality of their flying is clear to see."

Monica Wyer sees it slightly differently. "Jonathan undersells himself," she says. "The pilot also has to be an integral part of the creative process. He's the grip who swings the boom and pushes the trolley and has to have the touch for it. If he doesn't have a creative role, we can't achieve the highest quality. Jonathan has a fantastic eye for it, his creative suggestions are always good and on top of that I'm happy to trust him with my life every time we fly."

The industry and the regulator have slowly come to terms with single-engined operations and the fact that they are every

bit as safe as twin-engined ops. Partly that is the result of experience, partly because some older people have retired and new thinking has taken over. But the competition has never ceased to make life difficult for FlyingTV, regularly complaining to the CAA about their work.

"We were engaged to film around the FA Cup Final at Wembley," says Mike, "and on the Friday morning, the day before the task, we got a phone call from CAA Flight Ops saying they were about to issue an order banning us from the area after a complaint from a competitor. They said they didn't think, looking at a map, that we can be certain to land without danger to persons on the ground.

"I invited them up to look at the area and they sent an inspector. Quentin Smith flew and I sat in the back, and we flew over the area. It turned out that this inspector had never done a range autorotation – he'd been a twin pilot and had no experience of such things. And when we demonstrated what was possible at 90 knots and 90%, he cleared us to fly. But there are people out there who don't like us and will do what they can to stop us. We're still trying to change the twin mentality, but we're getting there slowly."

Mike has always bankrolled expansion through cash flow, and even before the banking crisis he was a disciple of organic funding. "We were into profit within six months of starting up," he says, "and even in 08 and 09, the years after the crash, we did pretty well. They hate us at the bank." This year the Olympics, coming at FlyingTV's busiest time, cost the company about £80,000, and there's no chance of compensation because the restrictions are in place for reasons of 'national security'.

Top: FlyingTV is regularly tasked to film unusual scenes for Top Gear
Above: Police Interceptors – you can't film a car chase without a helicopter

Right, top to bottom: well-known 'slebs' Ant and Dec on a shoot with FlyingTV's G-PIXL
FlyingTV was engaged by Sky1 to enhance Davina McCall's 'Got to Dance'
The company filmed comedian and pilot Eddie Izzard running for Sport Relief
The only celebrity worth the name – Frank Robinson

Insurance is a significant overhead – the BBC insists on £50 million of liability cover – while the company puts £80 an hour aside for rebuild, which left them in pocket when G-PIXX had to be zero-houred after seven years. Together with a company called Helicopter Film Services, who do high-end film work, they took over Hangar M at Denham from PremiAir in December last year and spent £80,000 designing and building offices and work areas to suit their needs.

Mike continues to fly himself, but never got the CPL he intended to get at the beginning. Running the company became so time-consuming, and he wouldn't be at his most effective at the cyclic. The company has no employees; traditionally, camera operators have always been self-employed, and pilots are contracted or freelance. "I'm a self-employed person with friends who work with me," Mike says.

His ambition for the next few years is to set FlyingTV up as a 'category killer' offering every service an aerial image customer could possibly require. That means moving out of his niche and onto a bigger battleground, and it means serious investment. He's getting the money together, he's shown he has the heart for it, and you'd be brave to bet against him. ■

When the Few got fewer

***David Ogilvy** recounts his personal experience of RAF pilot training in the mid-1940s*

When attempting to unite mind and matter for this article I intended to produce an objective assessment of the RAF's pilot training scheme of the time, but clearly this would have lacked the all-important human element. I tried another route and found that without the personal touch, much of the meaning would be lost. As I could see it in only one person's eyes – mine – I was unable to avoid use of the first person singular more obviously than I would have preferred! For that, I apologise.

Back to the beginning – the war was over. I had just seen a celebratory formation flypast of about 340 fighters, but soon the RAF was to be cut down to a small fraction of its peak size and many thousands of aircrew were being 'demobbed' compulsorily. I was on short final for 17 years of age and determined to be a pilot, but clearly there was no need for any newcomers. Soon, though, I discovered that there was a small open crack in the closed door as, surprisingly sensibly, those in places of power had realised the need to maintain some form of training system. This strengthened my resolve. I went to Reading Recruiting Office and stated that I intended to be a pilot and I would accept nothing else. A little later I feared that my lack of tact might have killed my chances (especially as the interviewing officer wore an air gunner's beret!) but before long I was sent to the Aircrew Selection Centre; there I was put through some extensive tests, including a medical which, officially, I failed as I was unable to stand on one leg with my eyes shut. However, I appealed and surprisingly my plea proved successful!

The next move was to the infamous RAF Padgate in Lancashire. As Aircraftman 2nd Class (AC2), all categories of entrant were gathered for intensive recruit training. Although some army people thought it was too soft, it was hard enough to achieve the all-important toughening that did none of us any harm. Those of us who were destined for pilot or navigator training (two out of about thirty on the course) wore white flashes in our forage caps, but quickly learned to remove them as we stood out as suitable candidates for unsavoury chores.

I failed as I was unable to stand on one leg with my eyes shut

Shortly after this we met the opposite extreme, with the pilot grading school at Shellingford in Berkshire. Although the Tiger Moths and the instructors belonged to the RAF, this small informal outfit was operated by the then well-known Air Service Training of Hamble in Hampshire, which was the UK's main centre for producing airline pilots. Life at Shellingford was unbelievably easy, but the work was not. We had 12 hours of intensive flight training, with four tests, the last of which decided our futures. At the end about half the pupils (not students in those days) were sent on their first solos, but I was not one of them. Those of us who had not made the grade indulged in much mutual commiseration, but imagine the surprise when we learnt the truth: to a man, those who had gone solo were failed as pilots and were to undergo training as navigators, but they had been granted what might be their only chances ever to fly alone. This was a remarkable example of good thinking.

Whilst itching to continue the flying, we were faced by what I found to be the only intensively boring stage of my life: several months of being shunted between no fewer than six RAF stations with nothing to do at any of them. The most noteworthy activity was the occasional chance to do some clay pigeon shooting; once, though, I was allowed to fire a Sten gun, which had a kick that I have not met in any other firearm. More importantly to me, though, during some leave, my impatience led me to Denham Aero Club, where I carried out my first solo and a few subsequent hours in a Piper L4 Cub. That enabled me to maintain some small semblance of sanity.

The next 'proper' move was in the right direction, but offered no flying or even the sight of an aeroplane. It was to Initial Training School at Wittering, a base that much more recently has been publicised for the unacceptable closure of the Harrier Operational Training Unit and the short-sighted scrapping of the type from RAF and RN service. The nearest thing to live aviation activity for us, though, was the work of the Chief Ground Instructor, one Squadron Leader Lord, who spent most of his time building, testing and modifying the first miniature jet engine, of his own design, for model aeroplanes. Our purpose in being there, though, was to spend twelve weeks on insights into theory of flight, instruments, navigation, organisation and administration, meteorology, airfield defence and other subjects judged to be of use when we tackled the real thing.

Above: before going solo it was a requirement to have three separate sessions on spinning and recovery in Tiger Moths
Left: Tiger Moth cockpit

After a further but less prolonged gap, life returned and, fortunately, stayed put. The wartime two-tier system of attendance at a civil-operated Elementary Flying Training School with Tiger Moths or Magisters, followed by more advanced tuition at a Service Flying Training School using Harvards or Oxfords, had just been rolled into an all-through course at one unit; in this case it was to be no.3 FTs at Feltwell near Thetford in Norfolk. The large all-grass airfield had been a Lancaster base and on one side a substantial area

Left: all who were going anywhere would progress from the Tiger Moth to the Harvard

had been covered by an extensive, but rotting, rail network. Despite the short time lapse, I was unable to discover whether this had been used for transporting heavy bombs or by the local agricultural industry. The RAF had no shortage of land, for the station had its own golf course and clubhouse!

Now we come to the purpose of it all. At this stage all pilot trainees, ranked as Cadet Pilots, underwent similar courses, regardless of their subsequent roles. The first element, on Tiger Moths, covered about 85 flying hours and before going solo it was a requirement to have three separate sessions on spinning and recovery. Two of us of the 26 on the course had flown alone already, but this had been at flying clubs and in the interests of Service standardisation it was not recognised, so we did it again. Here I must record one of the very few real criticisms that I can offer: on my official third solo I was authorised to fly to the relief landing ground at Methwold and carry out an hour's circuits before returning to base. The distance was small, but I had received no navigation training and I became nervous when temporarily disorientated on the way back.

In addition to the exercises that anyone would have covered on an extended PPL course, we received tuition in aerobatics and in instrument flying. Both of these were quite difficult, for the Tiger was reluctant to roll comfortably compared with its successors such as the Chipmunk and Provost, which went round smoothly almost before being asked to do so. More demanding was the IF, which was conducted almost in the dark under the canvas hood and all, including take-offs, on limited panel from the start.

Surprisingly we were not required to stop the propeller and restart the engine in flight, yet several years later, as an instructor, I was expected to teach this to ATC/CCF cadets on flying scholarship courses. Towards the end of this first stage I told my instructor how much I enjoyed my flying and wished that I could get more of it. He amazed me by saying that I was the first pupil to say that to him. As I explain later, unintentionally this may have saved my day.

At this time there was no differentiation between pilots destined for different tasks. In earlier years those earmarked for twins or multis would transfer to Airspeed Oxfords, but for some reason the type had been withdrawn and many were placed in storage, to be reintroduced several years later for training National Service pilots. At the time of my course, though, all who were going anywhere would progress from the Tiger Moth to the Harvard. Here, once we had managed to cope with the heavier and more powerful beast, we continued with more advanced phases of earlier exercises. Then things became even more interesting, with night flying, formation work, fighter affiliation with camera guns and dive bombing. In particular, I enjoyed the last of these, known officially as steep glide bombing. There would be a marked target in one of the most remote spots in rural Norfolk, where a lone Range Officer would assess the accuracy – or otherwise – of our efforts at precision. Using 11lb smoke bombs, which had no lethal content but which created conspicuous puffs on contact with the ground, the idea was to line up to fly almost overhead, letting the target disappear behind the wing root leading edge, count three, roll on the back and dive at what seemed a vertical angle, but which in reality was 60°. With a little practice, it was possible to become encouragingly accurate, but just when we reached this, there was no more of it to be had. At this stage, though, training was for all roles, with a smattering of each and no specialising; that would come later. One requirement that surprised me was a navigation exercise with one long leg at 15,000 feet with no oxygen; I doubt if that would be allowed today.

we needed to keep on our proverbial toes, for the 'chop' rate was high

The course was well rounded, with half a day on flying and the other at ground school, exchanging mornings for afternoons each week. This was especially beneficial with winter weather and limited daylight. Each instructor had four students, with two in each group, so he had no undue pressures on time and this provided ample opportunity for briefings and discussion.

Throughout this training, supply exceeded demand and there was no wartime need to produce as many pilots as quickly as possible. As a result, we needed to keep on our proverbial toes, for the 'chop' rate was high. 26 pupils started on our Feltwell course; 15 were removed quietly along the way and eleven of us were awarded our coveted Wings. Prior to that, though, at grading school, 50% of candidates had been assessed as suitable for training as navigators rather than pilots, while at the very earliest stage, at the Aircrew Selection Centre, an unknown but substantial number had failed, usually for lack of hand and eye co-ordination, but also for medical or personality reasons. Educational standards had been checked at an even earlier stage. So we have no precise answer to the numbers game: probably, though, there were about 80 starters for the eleven of us who achieved our aims. Often I wondered how I survived the many rejection procedures and, in retrospect, I believe it was that casual remark to my instructor, proving that I had enthusiasm if not any special skills or abilities.

At this stage, although we had our Wings, and a few more than 200 hours in our log books, our training was far from finished. We were asked what type of aircraft we wished to fly, with three courses available: Spitfires, Mosquitos or, perhaps surprisingly, Wellingtons. Although the old cloth bomber had been retired from squadron service, it was retained as a heavy twin conversion trainer for all who were destined for Bomber, Transport or Coastal Command. In common with many other youngsters I opted for the Spitfire, but there was no indication of where and on what we would go next. Even when I was instructed to report to Brize Norton, until after I had arrived I had no idea of what I would find. Just before leaving the train at the now long-closed Carterton Station, I saw a lone Spitfire on the tarmac. My heart rose in tempo, but was I certain that this was the type on offer? Time would tell. If you are not bored already, so will the next issue… ■

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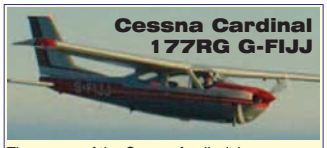

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Piper Archer	1
Cessna 172	1

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PA38 Tomahawk	5
PA28 Archer	1
PA28R Arrow	1
PA34 Seneca	1
Cessna 172 Skyhawk	1

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Piper PA28	1
Piper PA38	2

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Piper Warrior	30
Piper Seneca	19
Cessna182	3
CRJ-200 FNPT11	1
B737-400 FNPTII MCC	2
PA28 FNPTI	1
PA34 FNPTII	6
PC Instrument trainer	10

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Piper Cherokee	2
Piper Warrior	2
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Cessna 152	3
Cessna 172 SP	1
PA28 Warrior	1
PA28 Archer	2
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Cessna 172 (use of)	1
Cessna 152	6

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PA28 Archer	1
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Comanche	1
Robin DR400	1
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PA28 - 161	3
PA28-201R	1
AA5A	1
Cessna 152	2

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Aero AT3	1
Piper Warrior	1

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Cessna 152 Aerobat	1
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Cessna 152	3
Cessna 152 Aerobat	1
Piper Tomahawk	2
Piper Archer	1
Piper Arrow	1
Piper Seneca III	1
Piper Warrior 181	1
Piper Chieftain 350	1

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Cessna 172	1
PA28 161 Warrior 111	2

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PA28R	2
PA28	5
Cessna 152	4
Cessna 172	1
Robin 200	4
Chipmunk	1
PA34	8
PA38	1
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PA28	3

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Aero AT3	2

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PA28	1
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PA28-161 Warrior	3

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Preaching to the unconverted

*How can you help win new friends for GA? **Richard Warriner** of the AOPA Members Working Group explains*

It seems that we are entering a phase of ever-increasing bureaucracy, what with JAR, then EASA. The voice of GA in the corridors of power is merely a whisper. To the majority, any small flying machine is expensive and dangerous, if not just a noise nuisance. Yet the different organisations within GA do not seem to exhibit a unified approach to the problems of light aircraft flight (or private flying).We need to get the general public on our side.

Are we simply preaching to the converted (or perhaps to the Inverted, if they are aerobatic types)? The point is that we tend to talk amongst ourselves, with perhaps the odd in-joke at the expense of one of the other aeronautical tribes. The Gliding types keep themselves to themselves with their winch wires and tugs. The microlight fraternity are also off doing their own thing. The Permit Aircraft folks having a go at the cost of C of A operations, while the C of A types say that all Permit Aircraft and microlights are just rag and tube concoctions with lawn-mower engines. It's all good fun and banter, but it overlooks the fact that we are united in our desire to get into the air by any means.

We are getting older. There's a statistic* floating around that the average age of the pilot population goes up by one year each year. If we don't get some more people involved in aviation at every level we will die out.

Although we desperately need new blood in general aviation, to an even greater extent we need the general public to like us. We have to let them know that:

- Flying is great fun.
- Pilots are nice people.
- Flying machines of all kinds are fascinating bits of kit.
- Flying doesn't have to cost a fortune.

We do have some things in our favour. There is an in interest in flying buried in the psyche. A friend who started using light aircraft for business trips after getting her PPL found that even arriving in a tatty old Cessna 152 trumped the folks who had arrived for the meeting in the latest super-car. At the other end of the scale, a friend who works in the building trade is an enthusiastic recipient of my surplus flying magazines. When he's read them he takes them in to work and finds that they are the first ones to disappear from the site hut, ahead of the 'Lad's Mags'. It's as if people need permission to get involved in aviation.

We want to get this message across without further inflating the cost of our £140 burger flights. The cheapest way to do this is the 'one at a time' approach. Not with any vast publicity campaign, but by taking time to talk to friends and passers-by about flying. While our time is precious, we do like to talk about flying, so it's no great imposition. If we all have this in mind when we are talking to people, something of a groundswell can be achieved at no extra cost. Some of the time it's a case of offering to take friends along when you are going for a flight, although a hit-rate of one in ten taking up the offer would be about normal. Inviting some people for a flight evokes the same reaction you'd get from offering them a blind date with your pet tarantula. You soon learn to pick your 'market'.

Richard Warriner with his "funny aircraft with the lawn mower engine"

In these days of terror about terror, fences surround our airfields. They give the impression that only the chosen few are allowed in. If you really want to get someone's back up, the quickest way to do it is to tell them that they are excluded. There are airfields that go out of their way to get the public in. Headcorn is one that springs to mind, with the field beside the runway full of folk in summer, watching the aeroplanes, with the kids waving to the pilots as they taxi by. PPL students there are actively encouraged to wave back to foster the friendly image.

Of course we get the same questions time after time. Is it safe? How much does an aeroplane cost? Do you have Air Traffic Control? Some of these are 'how long is a piece of string' type questions and a balance needs to be struck between a long-winded correct answer and a somewhat patronising off the cuff remark. We've all developed our own answers over the years, but to someone on the outside looking in, it's all new and incomprehensible (a bit like EASA for us…)

I'm lucky with my flying, in that I have some factors working in my favour. One is the low operating cost of one of those funny Permit Aircraft with the lawn mower engines, which means I can be magnanimous with offers of flights. I'm based on a farm with a public footpath that crosses the runway. Some of the footpath walkers are interested enough to stop and ask about the aeroplanes, as in the normal course of their lives they would never come close to a light aircraft. Taking time to talk to them and answer questions makes new friends for GA, some even accept the offer of a quick flight.

Having a microlight school on the field makes for a steady flow of new interested people. As you may know, trial lessons are the life-blood of the microlight flight-training world. These are often in the form of Christmas or birthday presents. Usually the partners or family will come along to watch. They are my targets. I'll talk to them while the Birthday Boy or Girl is having their flight. Sometimes they will come up for a flight. That makes two new friends for aviation.

There are times when you get a real win out of taking someone flying. On one occasion there were a couple of guys replacing the telephone wire down the mile of track to the farm. During their lunch break they asked about the aeroplanes and I ended up taking them both for a flight. The second one mentioned that his mate was scared of flying, but once back on the ground had called his wife to tell her to go ahead and book the holiday. He was now happy about the air travel part that had been putting him off for years. Another win resulted in a phone call that started "You have cost me a lot of money!" I racked my brains to think of anyone I'd cost a lot of money (excluding my folks), but it turned out that after a quick flight the guy had become so taken with flying that he'd taken lessons. He was calling to say he'd just got his PPL.

We need more people interested in our type of aviation. Hopefully that will equate to more people learning to fly. It doesn't really matter which aviation tribe they join, because if they fly they are part of our community.

**Statistic: A number plucked out the air at random to support an argument, often non-attributable with no research or scientific foundation. Very popular with politicians.* ■

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