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JUNE 2014

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Contents

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Chairman's message

The spread of AOPA's influence

The Regional Meeting of IAOPA Europe took place over the second weekend in May in Reykjavik, Iceland, and a report on the proceedings appears in the following pages. It is the first time that this biannual event has been hosted by AOPA Iceland and it provided an opportunity for country representatives to observe at close hand the unique situation that exists in Iceland due to its geographical isolation. Engaging with our European counterparts is absolutely essential these days in in order to present a united front to EASA, especially in view of EASA's newly enlightened attitude to GA, and to allow realistic engagement in important projects such as SESAR that will influence GA operations in the future. Part of your AOPA membership subscription goes towards IAOPA Europe, as well as IAOPA itself, which has a seat on ICAO.

Nearer to home, AOPA is a major supporter of the General Aviation Safety Council (GASCo) and the General Aviation Awareness Council (GAAC) and it is through these two bodies that AOPA's influence and views can be brought to bear on GA flight safety and aerodrome awareness. The firm view of AOPA is that GA flight safety is best discussed and represented by one body that includes all sectors of GA, from associations covering model aircraft flying to bizjet operations. GASCo's origins go back 50 years, just before the British Light Aviation Centre adopted AOPA as its trading name. The GAAC is best known not only for aerodrome awareness but also for provision of help on planning issues, including the topical and prevalent problem of the siting of large wind turbines that pose a threat to flight safety. It, too, has a wide membership that includes GA associations and many aerodromes. Part of the AOPA donation to GAAC is earmarked for support of Steve Slater, who does a sterling job in provision of planning advice and reports on current planning issues, summaries of which are circulated more widely than the GAAC membership through publication of articles in the aviation magazines, including our own *General Aviation*. The origins of the GAAC goes back to 1987 when AOPA Past President, David Ogilvy, and Vice President, Jack Wells, got together with others to start a campaign to raise public and media awareness of general aviation.

A good example of how AOPA can constructively influence the CAA arises from one of AOPA's specialist committees, the Maintenance Working Group. It was set up in 2009 because of the extra burden of bureaucracy imposed on maintainers in becoming CAMOs (Continuing Airworthiness Maintenance Organisations) under EASA Part M. An AOPA questionnaire at about the same time indicated the cost of the additional administrative work, borne ultimately by owners, was £800 per aircraft per year. The WG meets twice a year and both aircraft owners and maintainers attend the meetings on a voluntary basis. The discussions provide valuable feedback to the CAA personnel who, since 2010, have been regular and greatly valued participants. A recurring issue since inception has been the approval of aircraft types on the CAMO exposition combined with the lack of a consistent approach by surveyors in agreeing the list of aircraft and types. Prior to the establishment of the GAU (General Aviation Unit), the CAA's Airworthiness Policy Group had a number of ongoing initiatives, one of which was to address this problem, and, as has recently been announced by Tony Rapson, Head of the GAU, visits by surveyors to audit a CAMO will be reduced to once every two years. Also, from September 2014 approvals will be greatly simplified to categories covering single engine, metal construction aeroplanes, wood and fabric construction, and composite construction. As for approval fees, the GAU will ensure that these are proportionate and fair, we are told. At present, approval fees fall into three bands, the lowest being for organisations with an annual turnover of less than £1.125m. Since the majority of GA maintenance organisations have turnovers considerably less than this figure, the fees can be quite disproportionate, amounting to £170 per aircraft per year for a typical small company. Ideally, these proposals should have happened many years ago when Part M was being put into practice for both CAT and GA. But better now that not at all!

AeroExpo UK takes place from 30th May to 1st June at Sywell where the output from the Red Tape Challenge is expected to be announced – let's hope that the RTC team has seized every opportunity to bring about immediate and lasting benefits to UK GA. This year AOPA has a large marquee and facility for providing hospitality to members. I look forward to meeting many of you there.

George Done

All change at EASA?

By Martin Robinson

It almost feels like too much to hope for, but is it possible that the European Aviation Safety Agency is going to change its spots, wake up to the realities of general aviation, admit it's been getting things badly wrong for ten years and start to put them right? That's the promise EASA is now making to GA. Call me naïve, but I believe this time they mean it.

I know we've heard it before. We were promised a 'Part M lite' to take the poison out of GA maintenance requirements, only to be fobbed off with something that amounted to nothing. Our plea for 'risk-based regulation with proportionate oversight' – how easily that phrase trips off the tongue after all these years – was met with understanding nods, and no real action. But change at the top, where Patrick Ky has replaced Patrick Goudou, is leading to philosophical change throughout the Agency. Once unable to admit its mistakes, EASA now recognises that its approach to GA has been inappropriate and has done real harm. The Agency is promising *'Simpler, lighter and better rules for General Aviation'*, and is asking for our help to achieve that. And AOPA is behind them one hundred percent as they try to turn these fine words into action.

And help they certainly need. The member states of Europe must accede to change at EASA, and not all of them will do so easily. The British and French are keen for change, the Germans tend to be less flexible and more disciplinarian, so take some persuading. The southern Europeans don't understand GA and are suspicious and unhelpful. Some of the 23 national AOPAs in Europe will have to work hard to convince their national authorities of the need for fundamental change. But ultimately, I see no reason why any member state should object.

The European Commission's Basic Regulation, the foundation document which governs everything EASA does, will have to be altered if there is to be real progress. And a genuine willingness to look at things anew will have to percolate right down through EASA, where ill-will at any level can create obstacles. But it seems we are going in the right direction at last!

EASA has publically acknowledged that transposing Commercial Air Transport rules across to general aviation was the wrong approach. Under the leadership of the new Executive Director the Agency seems to accept that if we want a vibrant and successful GA industry in Europe, one which can compete on a global level, we cannot divorce regulation from business imperatives, which has been the case up to now.

I've known Patrick Ky for many years and I've always admired his perspicacity and his administrative skills. I said when he was appointed that he was the right man for the job. What's more, he took over at a time when there was a clear appetite for change right across Europe. It was particularly evident in France, where Patrick Gandil was breathing new purpose into the DGAC, and in Britain, where we had Andrew Haines making waves at the CAA. It was during a visit to Britain that the path to change crystallised in Patrick Ky's mind. As well as meeting Haines and other CAA and Department for Transport figures, Ky met with Grant Shapps MP, the GA pilot and senior government figure whose determination to slash red tape could make a major improvement to the GA environment here.

Movers and shakers – from left, Patrick Ky, Grant Shapps, Tony Rapson

When he got back to Cologne, Patrick Ky directed his staff to look at GA issues. The EASA GA road map was already in existence, and Ky is determined to ensure that it does not go the way of other GA initiatives before it and end up paving the road to hell. What should now happen is an accelerated rebooting of the rules that apply to GA across Europe. EASA has given itself three years to put right the problems that were created over the previous decade. That means we will have substantive change before 2017 – and IAOPA will hold EASA's feet to the fire to ensure they deliver on their promises.

In addition to this new approach, Patrick Ky has established a group of European regulators with GA knowledge to work with EASA. Tony Rapson, the recently appointed head of GA at the CAA, will be chairman of this regulators group – a good choice. Part of the EASA promise includes simplified administration and operational procedures, with streamlined oversight. EASA will also establish a dedicated General Aviation Department which will have accountability for GA inside the organisation.

IAOPA fully believes that EASA is now on the right track. We want them to succeed, and we offer them 100% support – but they need to show us that they can cross the bridge from talking about change to doing something about it. They are still bound by the Basic Regulation, but an opportunity exists to make the required changes there and we are working on our proposals for the rewording of some sections.

To start the ball rolling, EASA is hosting a meeting in late May with the stated objective of deciding how to simplify the Approved Training Organisation rules for the Registered Facilities that currently make up a significant proportion of our flight training industry. The current system fails to differentiate sufficiently between big organisations with large staffs and the one or two-man RFs for whom complex audit requirements are disproportionate. Do RFs really need to write individual safety manuals? No.

EASA does not understand the risks it says it needs to regulate. Safety data plays an important role here, and this is where European states have got to assist EASA. Some collect no meaningful data, some collect it in inexplicable formats, and some don't want to supply it to EASA for nationalistic reasons. Analysis of good data and the identification of safety-related trends should be part of the project.

EASA's Head of Rulemaking is retiring later this year and Patrick Ky has decided he will not be replaced. This is a small earthquake, because some people at EASA thought the Cologne mill would keep churning out rules forever. The idea that we have enough to be going on with is revolutionary, and welcome.

EASA is now arranging a GA conference this autumn in Italy, to coincide with the Italian Presidency of the EU, and Grant Shapps is one of the invited speakers. Opportunities like this don't come often, and we have to grasp this one with both hands. ■

Belfast joins Strasser Scheme

Belfast International is the latest airfield to join AOPA's Strasser Scheme, under which landing fees are waived in case of genuine emergency or precautionary diversion.

Belfast's agreement brings to 206 the number of UK airfields that have joined the scheme, with only six failing to sign up. Charles Strasser, the AOPA Board member who conceived and promoted the scheme that bears his name, has written to the Managing Director of Belfast International, John Doran, thanking him for agreeing to participate in what is demonstrably a lifesaving scheme.

The Strasser Scheme came about when the CAA issued CAP 667, which said in subsection 9.2(c) that "there were a number of fatal accidents where a timely diversion or precautionary landing could have avoided the accident. In the UK (and probably elsewhere) there is a culture of pressing on and hoping for the best rather than accepting the inconvenience and cost of a diversion. This culture needs to be changed, firstly by educating pilots *and secondly by persuading aerodrome owners that there should be no charge for emergency landings or diversions."*

Following an AOPA Executive Committee meeting, Charles Strasser wrote to the CAA to ask what they intended to do about the latter statement. When it became clear they were doing nothing, he set himself the task of getting every aerodrome in Britain with the exceptions of Heathrow, Gatwick, Stansted and London City to commit to waiving charges for precautionary diversions.

This has largely removed the cost of landing from the decision-making process of pilots who are considering a weather diversion, sometimes in stressful circumstances not conducive to cool thinking. For initiating the AOPA Strasser Scheme and his persistence over the past 11 years in getting over 200 airports and airfields in the British Isles to participate, Charles Strasser won the 2010 CAA GA Safety Award. ■

Chief executive's diary:

Today CAA, tomorrow EASA?

More than 20 years has passed since I began working for AOPA, and I've had cause to reflect this month on how our relationship with the CAA has changed over that time. Once, going to a meeting with the Authority was a dispiriting prospect; but today I go to Kingsway or Gatwick and talk to knowledgeable and reasonable men and women who are confident in their understanding and not afraid to make decisions. Not all is well, but all sides agree things are better, and can get better still.

Can EASA really be heading down the same road? As you see elsewhere in this issue, they realise all is not as it should be and things must improve. We have a hell of a long way to go with EASA before our industry can be satisfied that we have a regulator who is fit for purpose, but could we be taking the first tentative steps in the right direction? I sincerely hope so...

On March 31 AOPA hosted a meeting at our Cambridge Street headquarters with leading CAA personnel to look at the benefits of using camera technology in general aviation aircraft for enhanced 'see and avoid' capability. This technology has been developed by a leading Cambridge-based innovative technology group and headed up by Peter Dodds.

Next day I chaired the Electronic Conspicuity Working Group, which is a combined industry/regulator working group looking at the feasibility of a low-cost, low-powered portable emitting device. The objective is to improve the electronic map of the UK's airspace.

In the afternoon I had a meeting with Grant Shapps MP, the Minister Without Portfolio who initiated the Red Tape Challenge, which is considering among other things how regulation of our industry could be improved through greater efficiencies and lower costs. I'm hopeful that when the output of the Red Tape Challenge is delivered there may be some positive results, and that we have not lost a golden opportunity.

On April 3 I was interviewed by three people from Deloittes, the first division accountancy firm which has been engaged by the CAA to produce a report on how the industry sees the CIA's approach to better regulation. The points I covered included regulation from Europe, and which parts of the general aviation community are still regulated by the UK Civil Aviation Authority. I pointed out the difficulty of the CAA has in complying with the better regulation requirements, particularly when producing Regulatory Impact Assessments to support the implementation of an existing European regulation. The CIA are between a rock and a hard place on this matter – although the CAA are legally required to do impact assessments, European law means it is a *fait accompli* and nothing can be changed, however adverse the impact! I suggested that when it comes to better regulation, the CAA should be required to produce cost-versus-benefit studies when responding to proposed rules coming from Cologne. I feel that this would actually assist EASA, particularly if other states did the same thing; regulatory impact assessments and cost benefit studies should be seen as tools to aid regulators in the development of new legislation.

On April 7 I had a meeting with Guatam Lewis, who is working to promote flying for the disabled and is trying to raise awareness in the general aviation community of the different types of flying aids available to people with disabilities. He believes that flying schools should see this as an opportunity, and we will help promote his vision where we can.

Next day I spent part of the day catching up with our Chairman George Done on recent AOPA activity prior to leaving for Aero Friedrichshafen. This ran over April 9 and 10, and was notable for EASA's apparent change of heart on GA regulation. I attended the EASA seminar on how the Agency intends to improve the regulation of general aviation (a subject covered elsewhere in this magazine) and how they want 100% support from general aviation. I promised EASA 100% support as long as they deliver!

We also had a meeting with other GA associations to discuss the ongoing political effort in Brussels. With the election of MEPs taking place in May, it is clear we'll have to begin again with our education programme, particularly as a new Transport Committee will be established. The first meeting of that group is scheduled for 3 pm on 7 July.

From April 14 to 17 I was in the office catching up with a backlog of emails and other Association issues. On April 24 I attended the General Aviation Strategic Forum at Gatwick, which was also attended by Andrew Haines, CEO of the Civil Aviation Authority. This is where a small group continues to discuss many of the strategic issues affecting the future of general aviation in the UK.

Busy summer for notams

Below: the Tour de France visits the UK necessitating mini RA(T)s being turned on and off throughout the course of each day

The CAA is urging pilots to double-check notams because of the high number of temporary airspace restrictions being put in place around sporting and commemorative events in the UK, Ireland and France this summer.

At the request of organisers, temporary airspace restrictions – RA(T)s – are being put in place to cover the UK and Irish stages of the Tour de France. Security restrictions will also be in place for the entire duration of the Commonwealth Games in Glasgow.

The French authorities have announced airspace closures for D-Day commemorations in June. The CAA urged pilots to allow more time for pre flight planning to ensure their flights do not infringe any of these airspace restrictions.

- The French Ministry of Defence will be creating Prohibited and Restricted Zones along the Normandy coast between June 2 and June 8 to cover the D-Day commemorative events.
- The Tour de France, which visits the UK for the first time since 2007, opens in Yorkshire on July 5 before making its way to London over three stages, ending on The Mall on July 7. The race passes near a number of GA aerodromes en route, including Duxford, Andrewsfield and North Weald. The airspace restrictions will roll with the riders as they progress through each stage, with mini RA(T)s being turned on and off throughout the course of each day. This will keep disruption localised for a minimum amount of time. Generally, the restrictions will extend from surface level to between 4,500ft - 6,000ft. The full Tour de France AIC, with charts, is available at www.ais.org.uk.
- The Government's security restrictions for the Glasgow Commonwealth Games begin on July 13 and end on August 6. A small Prohibited Zone established around the main Games venues will exclude all air traffic apart from CAT into and out of Glasgow Airport, as well as helicopters operated by the emergency services and the BBC. This will be surrounded by a larger Restricted Zone (July 21 to August 3) into which GA aircraft can fly providing they have notified the flight with air traffic control at least two hours before take-off. Pilots can do this on two dedicated phone lines. As with the Olympics around London in 2012, the Restricted Zone will be subject to capacity constraints. See *http://airspacesafety.com/ commonwealth* for details.

As well as being available on the official AIS notam website, pre-flight planning tools such as SkyDemon and Rocket Route will have full details of the restrictions. ■

On April 26 I attended the AOPA Members Working Group meeting at White Waltham, with Pauline Vahey in the chair. This was a good and productive meeting, covering many of the main issues we face today. I'd remind members here that if any of you feel you'd like to contribute and become a member of the MWG, all you need to do is turn up – obviously you should let us known in advance so we can organise the sandwich provision at lunch time and make sure there's a seat for you. Come and have your say on any subject – but this please contact the office first, if only to get the dates of the meetings.

On April 28 my colleague Michael Erb from AOPA Germany came to the UK so we could take part in meetings with the UK Civil Aviation Authority to discuss what options Cessna owners in Germany may have in respect of the application by the German authorities on the SID requirements. The CAA were extremely helpful and it's clear that their policy is to comply with European legislation which means that for approximately €1000, German Cessna owners could place their aircraft on the UK register. This is infinitely preferable to the German alternative, which is in some cases removing the wings from aircraft to check for corrosion, something that could cost more than these elderly aircraft are worth.

German Cessna owners might place their aircraft on the UK register

On April 29 I went to the Civil Aviation Authority's Finance Advisory Committee where part of the discussion centred on the future financing of the General Aviation unit. More to follow on this subject as the emerging picture becomes clearer.

On May 2 I took part in a discussion with National Air Traffic Services – NATS – about a project centred on a portable ADS-B system that they have had under development with a view to obtaining European funding to do flight trials, which includes validation and verification work. This is a short-notice project which has pros and cons, but I thought it best to engage fully with it and spent much of the next few days on it. Our office administrator Mandy Nelson also worked wonders getting the documentation into shape. I worked on the paperwork all the following day, and on May 6 I had a two-hour meeting with NATS representatives to make sure that we had a full understanding of the documents required for submission under the tender process.

Later that day I went to the CAA at Gatwick for a meeting on behalf of an AOPA member who is seeking to resolve some issues that would enable the return of his rating. This led to a positive and constructive discussion with CAA personnel which left both the member and the CAA satisfied with the outcome.

On May 9 I finalised the submission with NATS – May 9 was in fact the final deadline for submissions, as the closing date for the tender was Friday, 9 May the consortium includes Funkwerke, TRIG, NATS and AOPA. More to follow on this subject if the bid proposal is successful. On the same day I departed for Iceland to take part in the European IAOPA regional meeting which is well covered in this issue of the magazine.

Martin Robinson

Farnborough airspace grab

The Farnborough airspace consultation closed on the morning of May 12th after AOPA had submitted a lengthy and detailed dissection of the proposals and presented its reasons for opposing the controlled airspace extension in its entirety.

The submission, collated by James Chan of the AOPA Members Working Group, takes issue with most points of Farnborough's rationale for its vast airspace grab. Farnborough is a general aviation airfield with only 25,000 movements a year, far fewer than GA airfields like Shoreham, Biggin Hill or Coventry, and the imposition of controlled airspace means creating delay and exclusion for GA traffic in transit or at other local airfields. As well as an increase in delay and exclusion, the result would be a decrease in safety.

This is the primary text of the AOPA response document:

E1: We disagree with your justification that establishing formal IFR departure and arrival routes is the best way to safely manage the increase in Farnborough's traffic.

We fully accept the need for the UK to modernise its airspace structures in order to allow continuous descent approaches as well as continuous climb departures. This should also deliver improved safety whilst reducing the noise footprint of those who live under approach paths.

However the proposals do not do any of this and in fact lower the arrival/departure levels currently in use and keep high performance aircraft at less efficient levels for longer.

We believe Farnborough should be looking at an overall review of SE England airspace, led by the CAA, to meet the needs of all users and not just incrementally graft CAS onto existing structures.

We would also like to point out that general aviation aircraft not using Farnborough airport fly both VFR and IFR.

E2/E4: We disagree that establishing RNAV1 SID and STARs is the best way to safely manage the increase in Farnborough's traffic with the least possible change in airspace at low altitudes.

We believe non-compliant aircraft should be accommodated using RNAV 5 and radar vectors if necessary. A conventional navaid infrastructure is not necessary in order to achieve this. This will ensure VFR and IFR departures and arrivals at nearby airports such as Blackbushe and Fairoaks can continue without significant impact to their operation.

Non-radio/non-transponder aircraft should also be accommodated.

E3/E5: We disagree with the way you balanced noise impact, initial altitudes and avoiding GA areas for the proposed departure and arrival tracks.

The airspace change proposal makes the assumption that an executive jet going into and out of Farnborough must accept a lower risk profile than other airspace users. However we note that your average executive jet carries 4 people on board while other general aviation aircraft not using Farnborough also carry similar loads.

We note that Farnborough has approximately 25,000 movements per year. Other airports such as Shoreham, Biggin Hill, Blackpool, and Coventry have far greater movements and do not require or request the airspace that you are seeking.

The airspace change has the effect to expedite Farnborough's departures by eliminating holding on the ground, but actually delays Fairoaks and Blackbushe south/westbound departures, whether at the hold or, worse, in airborne orbits awaiting a transit clearance. This is neither safe, as a pinch point has been created therefore increasing the risk of mid-air collisions, nor environmentally friendly, due to the fuel burn and noise to residents beneath.

We do not believe that the delays of aircraft transiting through Farnborough's airspace (which may be PC-12s or King Airs with eight people on board) are any more acceptable than the delay of Farnborough's customers.

We therefore see little argument that the lives of the people on board executive jets going into and out of Farnborough are more valuable, and therefore require greater protection compared to non-Farnborough aircraft. It is also not clear what IFR transit routes would be available, if any.

E6: We strongly disagree that the Class D CAS proposed is the minimum required, consistent with safely mitigating against infringement risks.

Parts of the Odiham, Blackbushe and Fairoaks ATZ lie adjacent to or within Class D CAS. Most infringements have been recorded by inbound aircraft to aerodromes on the edge of controlled airspace getting 'lost'. The number of infringements in such cases will almost certainly go up instead of down.

The 1500ft base CTA is below minimum safe altitude, a major risk for collision into terrain for aircraft flying in IMC who cannot get clearances to enter Class D. It is also another recipe for infringements as demonstrated by hundreds of Stansted incidents that occur each year.

All of the airspace proposed does not return to Class G when Farnborough is closed. Non-radio aircraft such as gliders and vintage aircraft are likely to receive the largest impact by their restriction on being able to access Class D airspace. The Lasham Gliding community is also likely to receive the full impact on their operations towards the south and east of their field.

SERA rules coming into effect at the end of 2014 require 1000 ft vertical cloud clearance, rather than 500ft. As a result there are concerns that VFR clearances cannot be granted. A Special VFR clearance might resolve the situation, but there are concerns that this will have a detrimental effect on Farnborough traffic flows and therefore not available for other traffic. Thus the imposition of extra CAS will have a detrimental effect on other users transiting the airspace.

It has been said that the conflictions with unknown traffic just outside Farnborough's ATZ has been one of the key drivers for the airspace change proposal. We are not aware and have not been presented with any evidence showing any conflictions beyond several miles of Farnborough and therefore believe the need that Class D airspace is not fully justified.

In addition you have not conducted a sufficient analysis of the traffic flows and usage of the Class G airspace that you wish to reclassify.

E7: We strongly disagree that the Class A CAS proposed here is the minimum required, consistent with efficient use and safely mitigating against infringement risk.

Establishing Class A volumes of airspace on the south coast is unacceptable. There is no justification whatsoever for prohibiting VFR access to airspace. Most general aviation pilots do not hold instrument ratings. The current costs to obtain one and to maintain currency

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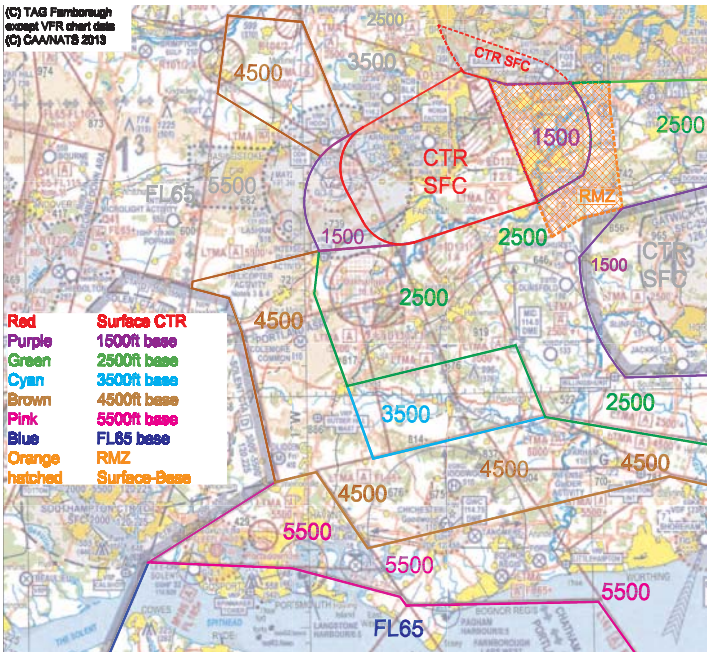
remain very high. Therefore by prohibiting VFR access implies the majority of general aviation should be excluded from airspace. The majority of cross-channel flights prefer to fly as high as possible to remain within navaid, radar and radio range and also to ensure a safe gliding distance upon engine failure. The last CAA Class G survey shows that a significant proportion of GA flies above 6,000ft. We should expect such to be able to continue to fly at such altitudes and that such flights are not constrained. Altitudes and flight paths should not be restricted based on flight rules. By lowering Class A airspace, the altitudes available to VFR aircraft become severely restricted and funnel GA VFR flights which increase the risk of collision. This is clearly detrimental to safety, has negative impacts on fuel economy by flying lower, and consequently increases noise on the ground. Residents may also attribute the additional noise to Farnborough which could have movement implications for Farnborough in the future. An alternative airspace classification must be used instead, not one which bars VFR flights.



We have also submitted a proposal to the London Airspace Consultation fully objecting any growth in Class A airspace and asking that all such airspace be returned to Class C or less. AOPA does not support the use of Class A airspace below FL200 we see no logical reason to block airspace in this way to VFR users.

E8: We believe the RMZ is too wide and restrictive and the triangle release to Class G is to small to be effective.

In accordance to the red area circled in the diagram, if two-way communications cannot be established, then such traffic only has a GND-1,500ft, less than 1.5nm wide to navigate.

In addition we believe there will be a lot of infringements of this area by people misinterpreting the chart. As a result we believe this creates a very dangerous high-risk collision hot-spot.

E9: We have no comment on whether FUA would benefit the gliding community if CTA9 and 10 could be 'cleared' of IFR aircraft by activating a pre-arranged agreement.

This is because we do not believe any of your proposed airspace is justified for the reasons above.

E10: We will not comment whether the proposed VRPs and transit routes are suitable.

This is because we do not believe any of your proposed airspace is justified for the reasons above.

E11: We believe pilots are familiar with standard RT procedures to request entry to

Class D CAS within the UK.

However many pilots will equally tend to avoid such airspace altogether if it is known that the probability to obtain a clearance is low. Farnborough consistently struggles to provide surveillance based services (Traffic or Deconfliction) outside controlled airspace on weekends during peak traffic periods. It does not proactively coordinate with adjacent facilities to clear aircraft into controlled airspace, but typically only alerts traffic to avoid controlled airspace, regardless of whether there is any risk of collision if infringed. It also does not typically handoff or accept handoffs from nearby LARS/approach units or aerodrome towers.

Because of these limitations, many pilots remain highly doubtful that there will ever be enough resources allocated to provide any form of crossing clearances into any of the proposed airspace while maintaining flight efficiency as well. We also note that you have not gathered any statistics on surveillance-based service refusals due to controller workload.

E12: We have no comment on whether pilots will request access through the Fairoaks corridor of the London CTR.

This is because we do not believe any of your proposed airspace is justified for the reasons above.

E13: We believe operations of pilots will be severely impacted if Class A airway bases are lowered to FL65.

Our justification is answered in E7 above. For flight safety, many pilots fly as high as possible to maintain enough radio / navaid coverage, to maintain within radar coverage, and to maintain maximum gliding distance in the event of engine failure for cross-channel flights.

E14: Our pilot members who operate into and out of Farnborough Airport do not support this proposal as detailed in our consultation. For the reasons explained above.

E15: We are unable to comment where powered GA VFR pilots will fly if CAS is implemented.

Every GA pilot has a different mission, including providing emergency transport to medical patients and organs, performing mapping, surveying and scientific work, search and rescue, flight training, police and fire-fighting work, television and filming, personal/private transport, and recreation which includes aerobatics, gliding, air racing and skydiving activities.

It is important that the diverse nature of all of such activities and more are considered, which is why we need to ensure that access to airspace is preserved.

We also note you have not properly considered GA IFR pilots and how your transit routes (or lack of) will impact them.

E16: We believe that usage of Farnborough LARS will remain unaffected if the proposal was implemented.

However we remain concerned about resources allocated to Farnborough LARS and how it will serve crossing clearances into surrounding controlled airspace in future.

E17: In summary, we strongly disagree that this proposal as a whole has considered the competing requirements of airspace users, and has produced a balanced design.

We believe the airport's proposals are designed to protect and serve their ultra high net-worth customers who can afford to pay a minimum of £455+VAT on weekdays and £1,235+VAT on weekends to access their airport. As a result Farnborough airport is closed off to light GA due to the expensive fees.

We note that the aerodrome manager has refused to lower his fees to the lighter end of GA despite obtaining approval to increase the number of movements up to 50,000 annually. The current runway utilisation is at 60% and mandatory handling is imposed, something which the vast majority of light GA does not need or want.

Because the airport cannot be proved to provide fair and equitable access to all users, we remain highly doubtful the airport can prove they would want to provide fair access to all users across their future proposed airspace.

The proposals seem to be designed to purely meet the demands of their exclusive customers at the severe detriment of everyone else around them. ■

Update on GARs

AOPA has been at the forefront of lobbying against tighter rules on General Aviation Reports which were brought in by 'Commissioners Direction' in late spring 2013. Commissioners Directions are an obscure form of law making which carries no requirement to consult, and indeed does not seem to need ministerial approval. However a CD (commissioner's Direction) based on the 1979 Customs and Excise Act allows the head of Border Force to make rules, and the GAR is based on such.

Nevertheless AOPA believe that the changes introduced in May 2013 were excessive and damaging – particularly with respect to notice periods. The effect of the changes was to mean a pre-notified GAR was required for every flight, whereas before one could arrive at a 'designated' port without notice. Additional rather ridiculous demands for 12 hours notice for flights to or from the CTA were also introduced. Other bodies including the Channel Islands Governments are fighting these.

Several meetings have now taken place, and AOPA is appreciative that Border Force do now see the need to consult.

AOPA, in general, does not oppose the drive to ensure that journeys are documented but maintains that providing such documentation should not be onerous and economically damaging. Commercial airliners are allowed to provide such information up to 'doors closed'. There are no reasons why a similar regime could not apply to GA. AOPA maintains that many of the imperatives behind the unworkable notice periods are simply operational convenience for BF, and that BF is ignoring its mandate to encourage economic development.

The situation at present is that AOPA and the other Associations involved are awaiting a new set of proposals with particular reference to notice periods. Meanwhile BF issued a statement (December 2013) that no action will be taken under the 2013 Directions on the subject of notice periods until such negotiations have finished. AOPA's advice therefore is to always submit a GAR in advance, preferably online with a receipt. If through circumstances beyond control one lands without a pre-submitted GAR, then contact the local BF office for clearance.

Online services

John Murray's 2013 online GAR facilities (the AOPA Silverlight site, the GoAv8.net site and the smartphone apps) have reached the end of their track, sadly. Increased Government demands for support and security, as well as the escalating cost, was 'too much for one individual' says John. "From launch April 2013 to March 2014 everyone's online GAR was paid for by me," he says. "It couldn't go on."

However he is committed to preserving a free service and has assisted the new OnlineGAR.com organisation with his knowledge, and has arranged for the AOPA site to meet all the new requirements. AOPA are committing funds to preserve this as a free service.

To repeat: the AOPA site www.AOPA.co.uk continues to provide a free GAR service.

The smartphone apps continue, but are now available as a subscriber service via www.OnlineGAR.com

The commercial service www.onlineGar.com provides an enhanced service where one can save personal details and journeys to make the whole process a simple matter of a few seconds' work.

It is unreasonable in the long term that this should result in AOPA members paying for services to non-members. AOPA is lobbying the Home Office to review the funding of a public service and to provide alternatives. ■

Refused Class D access?

AOPA is collating a database of refusals of access to controlled airspace in order to underpin its arguments for minimal restrictions. If you are refused access, please email nickwilcock@aopa.co.uk with brief details – when, where, and if given, why.

Refusals of access to Class D used to be a major problem in areas like Southampton, and while the situation has improved, the idea that Class D is open sesame for VFR traffic except in extraordinary and unusual circumstances is misplaced. Sometimes the excuse for refusing access is the ANSPs own failure to provide enough controllers to meet demand.

The CAA often say GA's claims of lack of access are anecdotal and not based on evidence. So please give name, callsign and details of ocurrence, and help us bolster the arguments that can prevent the plague-like spread of controlled airspace.

AOPA Flight Instructor Refresher Seminars

AOPA is running the next Flying Instructor Refresher Seminar on September 16 and 17 adjacent to Booker Airfield.

The validity of these Seminars towards your licence renewal is 12 months from the date of the Seminar, so you can do it any time during your renewal year.

The cost is £275 including VAT, which is reduced to £240 for members of AOPA. This includes a buffet lunch on both days, as well as tea and coffee. Inexpensive local accommodation is readily available for those who require it. In addition, all participants will receive a £20 voucher towards a purchase at the new AOPA Pilot's Shop at 50a Cambridge Street, London SW1V 4QQ, either in person or on line.

In case of cancellation within 10 working days of the Seminar, a fee of only £15 will be charged, with the remainder being refunded. Deferral to a future Seminar is also possible at no additional cost up to five working days before the original Seminar.

More information is available on the AOPA website (www.aopa.co.uk) or directly from the Administrator, John Pett, on 07754780335.

Look forward to seeing you there!

Iain Panton

It is great sadness that I convey the news of the death of Gp Capt Iain Panton RAF (Ret'd) on Saturday 3rd May 2014. He passed away peacefully in the John Radcliffe hospital after a very short illness, surrounded by all the family in his final days. Our condolences have been offered to the family. He leaves behind his wife Barbara, and children Angus, Ailsa, Briony and Rory.

Iain was a very active member of South Warwickshire Flying School following his retirement as Regional Commandant ATC, Scotland & Northern Ireland. He was our representative and a director of AOPA for many years, and together we put together the flying syllabus for the first proposed recreational pilots licence as invited to do so by the CAA. The National Private Pilots Licence (NPPL) eventually came into existence and will be replaced by the Light Aircraft Pilots Licence next year.

During his career, Iain held many appointments in the RAF and NATO, and, in his final appointment he was instrumental in coaching and supporting many Air Cadets in securing a career in the RAF. He helped us in our PR work and many other tasks through the 1990s. Many of us have had the great honour of knowing Iain for so many years. Our thoughts are with his family in their bereavement. – *M Rodney Galiffe* ■

Airfield or housing estate?

By Steve Slater

It might be stating the bleeding obvious, but no matter how much time or money you lavish on an aeroplane and regardless of how hard you work to maintain your flying skills, it is all pretty useless if you do not have an airfield to fly from. The past months has seen a worrying and increasing trend of flying sites being threatened by the close proximity of housing or potential sale for domestic development.

Part of the reason for this is that Councils are rapidly approaching the final deadline for lodging with Government their housing strategy plans for the next quarter century. The wide-open spaces of airfield sites (classified as 'brownfield' industrial developments by John Prescott, bless 'im) offer an enticing 'quick fix' in terms of available land.

During the recent years of a stagnant economy, land including airfield sites was seen as a safe, if relatively low-yield investment or 'land bank'. Now as other areas of the economy start to offer greater returns, some airfield site owners are being advised to liquidate their assets and move them elsewhere. This is placing even active and profitable airfields under pressure.

It should also be remembered that many airfield sites were once owned by a wealthy landowner who accepted a lower rate of return because they were flying enthusiasts. With the passing of years, we are losing these individuals, and their successors may not share the same enthusiasm about their inheritance. Whatever the motivation, there are plenty of property developers willing to offer them a "quick buck."

Back in 2012, AOPA and the General Aviation Awareness Council, which looks after airfield planning issues on behalf of AOPA members, worked hard to build some safeguarding into the then-new National Planning Policy Framework, recognising airfields as part of the national transport and economic infrastructure. We even got a clause written into the NPPF (paragraph 33 if you ever need to quote it to your own local councillors) that reads:

"When planning for ports, airports and airfields that are not subject to a separate national policy statement, plans should consider their growth and role in serving business, leisure, training and emergency service needs. Plans should take account of this Framework as well as the principles set out in the relevant national policy statements and the Government Framework for UK Aviation."

However, the overall trend of current Government planning policy is to prioritise housing ahead of other previously stated priorities. It won't get better after any election either, as all three Parliamentary Parties seem to be equally fixated on "building our way out of recession".

Local Authority Pressure

Among the airfields directly threatened by regional housing development plans is Bourn, facing inclusion in South Cambridgeshire's plan as a location for a 'garden village' of 3,500 houses. Panshanger has been threatened for some time by proposals within Welwyn and Hertford Council's Emerging Core Strategy, to be redesignated as residential land with the potential for 700 houses.

Warwickshire is another typical case. Stratford-upon-Avon District Council is required by the Government's 'Planning for Growth' policy to provide an additional 10,800 houses by the year 2031. In other words it has to allocate land for 500 new houses per year!

While Long Marston airfield is one of the sites designated in the Stratford District Council draft strategy as a preferred location for housing, it is noteworthy that another site considered, but notably not included in the strategy, was Wellesbourne. The GAAC has played a role in this, having briefed the planning officers in previous planning cases surrounding the site, on the role of general aviation and the strategic importance of the airfield as a transport, training and tourism asset.

Wellesbourne's owners, though, now wish to reclassify its current planning permissions and sell the land. A prime reason for this is that when the original owner passed on, the family holding company got divided into more than twenty

People power has helped Panshanger, top, and an action group is hoping to save Bourn, right, from housing development

Left: the owners of Wellesbourne want to turn their investment in the land into money

individual stakeholders, the majority of which now want to turn their land investment into money. They are of course, perfectly entitled to apply for planning permission for the changes, but will face significant opposition from an increasingly active local "Wellesbourne Matters" action group.

People Power v Personal Greed

One positive area noted from all these various threats is that local communities have in almost every case supported the airfield as being a potentially better neighbour than extended housing or commercial development. Prime among these is Manston, where the fight against closure by the airfield owner on alleged economic grounds is being led by local residents, who along with the local MPs have proposed a revised economic package and an alternative owner.

Manston was bought in November 2013 by Ms Anne Gloag, late of Stagecoach (whose aggressive business practices led to several investigations by the Competitions Commission) for a token £1 and surprise, surprise, by March 2014 plans to close the airport were announced. Since that time Ms. Gloag has turned down a £5 million offer from another company which would acquire the airport and keep it operational, while it has come to light that as early at Christmas, her team had been discussing plans for 1,000 houses on part of the site with the local council.

While a number of legal avenues are being explored we, in conjunction with the local Save Manston group, have been lobbying council planning committee members to publicly state their refusal to allowing any planning permissions for change of use of the airfield and its environs for anything other than its continued use as an airfield. This may at the very least delay any chance of Ms Gloag gaining a quick return on her land-bank investment and could make continuing, even restricted use, of the airfield viable in the short-term at least.

There have been more examples of people power too. At Bourn an action group, BAD, Bourn Against Development, is petitioning the Council against their housing proposals and at Panshanger, the case against redevelopment has been successfully led by local residents, prompting a review by Welwyn and Hatfield District Council into their potential inclusion of the airfield into their housing strategy.

Ann Gloag, right, bought Manston, below for £1 and has turned down an offer of £5M

A Sporting Chance

In the case of Panshanger, in addition to formally advising the Council of the airfield's role as part of the area's transport and business infrastructure, we are also working with Sport England on the potential classification of the airfield as a SASP or 'significant area for sport' based on its competition aerobatic activities. This gives additional planning safeguarding and if successful may also form a model for other airfield sites in the UK if they can be proven to be regional centres of excellence for sport flying. Watch this space!

Finally a plea. These airfields will not be alone. If you fear your airfield might face a similar threat, do let us know by dropping a line to the AOPA office. At very least the General Aviation Awareness Council can do what its name implies; make the local authorities aware of the importance of general aviation to local businesses, communities and jobs. Until they are told, many in local government simply don't realise how important that airfield on their doorstep might be! ■

The 'IMC' and beyond

The 'IR(R)' is with us and EASA is working on procedures for stepping up, as ***Nick Wilcock*** *reports*

In April's *General Aviation*, I mentioned that EASA's Acceptable Means of Compliance and Guidance Material (AMC & GM) associated with the recent amendment to the Aircrew Regulation was expected to be released very shortly. Indeed it has now been published, as Decision 2014/022/R which addresses the amendments made to Part-FCL by Commission Regulation (EU) No 245/2014.

OK, that's enough €urobabble, let's see what changes this has actually introduced. The UK IMC/IR(R) is now considered to be *'an authorisation issued by a Member State under Article 4(8) of Commission Regulation (EU) No 1178/2011'* and as such, the requirements to convert an IMC/IR(R) to the Competency-based Modular IR are now included in AMC5 and AMC6 to Appendix 6 of the Aircrew Regulation. But, contrary to speculative suggestions made elsewhere in advance of the official AMC & GM release, it is now clear that a suitably experienced IMC/IR(R) holder may receive up to 30 hrs of credit towards the C-bM IR, so that only 10 hrs further instrument flight training at an ATO will be needed, plus an initial assessment, theoretical knowledge exams (about 60% of the current IR exams) and IR Skill Test. Credit is also allowable towards the En-route IFR Rating; however, even the EIR's staunchest advocates now admit that it is pretty doubtful whether any IMC/IR(R) holders will actually bother with the EIR, given the substantial credit available towards the full-fat C-bM IR.

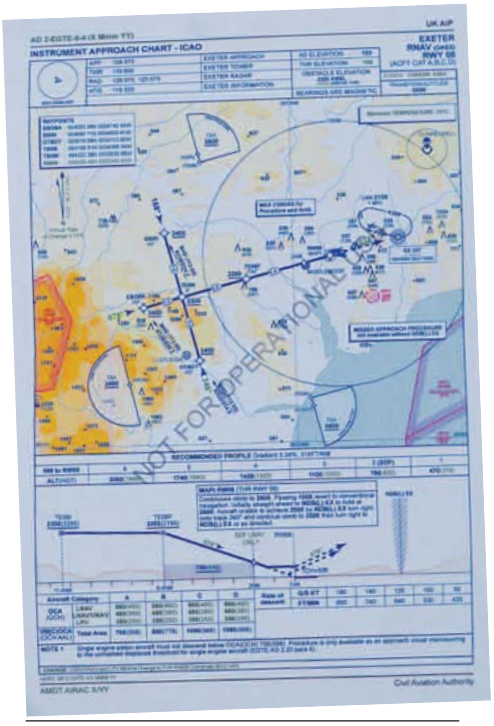
Of these 30 hrs of available credit, 15 must be instrument flight time under instruction on aeroplanes, e.g. for the initial issue of the IMC/IR(R) and up to 15 may be flight time under IFR as PIC of aeroplanes. However, AMC5 makes it abundantly clear that the latter IFR credit only applies to 'instrument flight time' as PIC. That is, the time during which *'a pilot is controlling an aircraft in flight solely by reference to instruments' rather than merely 'flight time during which the aircraft is being operated under the Instrument Flight Rules'.* Which in normal English means genuine 'IF time'; hence neither cruising under IFR in VMC nor the time spent taxying around an aerodrome as part of an IFR flight will count towards such credit. Of course it will be up to the applicant to confirm that he/she has this experience, so in addition to logging 'flight time under IFR' as required by the regulations, pilots are strongly recommended to keep a note of their instrument flight time in the remarks column of their personal flying logbooks.

Don't all rush at once to apply for a C-bM IR though! The CAA has a huge workload at present and the near-term project date for facilitating C-bM IR / EIR implementation at non-complex ATOs is likely to be about a year away still. So perhaps now is the time to remind ourselves about certain aspects of the IMC/IR(R).

IMC/IR(R) minima

As mentioned in the last edition, quite unlike every other instrument qualification I've ever held, the IMC/IR(R) has 'recommended' rather than absolute instrument approach minima. These are to be found hidden away in the UK AIP AD 1.1-7 para 2.8.2.1, which states *'Pilots with a valid Instrument Meteorological Conditions (IMC) Rating are recommended to add 200 ft to the minimum applicable DH/MDH, but with absolute minima of 500 ft for a precision approach and 600 ft for a non-precision approach.'* Pilots who have been neither trained nor tested to fly below these recommended minima do so very much at their own risk and is not something the AOPA Instructor Committee would advocate!

In contrast, aerodrome visibility requirements applicable to the IMC/IR(R) are mandatory and are included in Section 1 Schedule 7 Part B Sub-Section 2 Para 4 (2)(b) of the Air Navigation Order, which states *'The rating does not entitle the holder of the licence to fly... when the aeroplane is taking off or landing at any place if the flight visibility below cloud is less than 1800 metres.'* However, with the adoption of Part-FCL, pilots with JAR-FCL or Part-FCL aeroplane licences without any instrument qualifications may now fly legally with an in-flight visibility of as low as 1500 metres under VFR, so we expect that the IMC/IR(R) take-off and landing minima will be brought into line with this figure in the near future.



LPV approach established at Exeter, others to come: ***See page 36***

Precision or Non-precision

That is the question. IMC pilots will doubtless be aware that instrument approaches fall into two groups, precision and non-precision. A precision approach, such as an ILS or PAR, has an approved electronic glidepath, whereas a non-

precision, such as an NDB approach, does not. However, recent advances in GPS technology and smartphone/tablet Personal Electronic Device (PED) 'apps' might perhaps change this situation in the coming years, although it must be remembered that 'D-i-Y' GPS approaches currently remain unapproved, no matter how clever the pilot's PED might be.

The techniques required for flying instrument approaches are, or rather used to be, quite distinct. For a precision approach, the pilot follows lateral and vertical guidance until reaching Decision Height (or Altitude), whereupon a decision is made as to whether the required visual references can be seen. If they cannot, then a go-around is flown, during which the aircraft will initially descend slightly below DH/DA as the decision is made. Whereas for a non-precision approach, only lateral guidance is available and the aircraft must not descend below Minimum Descent Height (or Altitude) until the required visual references are seen. If they are not, the aircraft maintains MDH/MDA until the missed approach point (MAP) is reached, before going-around.

However, we must also consider the assumed vertical profile to be flown during a non-precision approach. Broadly there are two profiles, the 'notional glidepath' which generally equates to a 3° gradient, and a 'free descent' which does not. Unfortunately, many pilots used to think that a free descent allowed them to descend at whatever rate they wished to MDH/MDA, whereas in fact the maximum descent gradient assumed in non-precision approach procedure design was actually only 400 ft/nm, i.e. 3.76°. Few pilots seemed to be aware of this and it is probable that a number of CFIT accidents were caused by the use of inappropriate descent rates where no mandatory notional glidepath requirement was stipulated, meaning that the aircraft was much lower than the was allowed for by the procedure design. However, a manually flown free descent non-precision approach was a skill required of all RAF VC10 pilots and was frequently practised, although perhaps not to the amusement of the RAF Brize Norton Station Commander, given that the BZ NDB was just a few hundred yards from his bedroom window. Flying two consecutive asymmetric NDB approaches with full power go-arounds just before the 23:00 curfew was perhaps not the best way for me to gain friends and influence when he had put himself down for an early morning trip to Cyprus and back the following day!

CDFA and SAP

More aviation acronymish, I'm afraid! With the increasing level of concern at the unwelcome noise and fuel waste resulting from flying an airliner level at MDH/MDA in the approach configuration for protracted periods and the risks associated with aiming their unwitting passengers at the ground at 1000 ft/min or more on free-descent non-precision approaches, airlines began to explore more conservative solutions, particularly when advances in flight instrument systems allowed notional glidepath vectors to touchdown to be displayed on airliner Primary Flight Displays. Basically, this has now allowed airlines to adopt a single SOP, whereby all instrument approaches are flown as though they are 3° precision approaches, including going-around at DH/DA if the visual approach references are not seen, rather then levelling at MDH/MDA to the MAP. To avoid busting the published MDH/MDA during the 'decision' process, it is also necessary to include an additional 50 ft or thereabouts to calculate DH/DA from these published minima. This technique is know as the Continuous Descent Final Approach (CDFA), which also requires a 'Stabilised Approach Policy' (SAP) and extensive cross-monitoring activity by the non-handling pilot, particularly during the go-around at DH/DA as this may well occur long before the published non-precision MAP is reached.

Horses for courses?

While the CDFA technique is clearly advantageous to Part-CAT air operations, we must avoid the trap of requiring or expecting GA pilots to fly SEP aircraft as though they are airliners. For example, consider an IMC/IR(R) pilot flying a 3° NDB approach using the CDFA technique, with a published MDH of, say, 540 ft. Not only must the pilot include an allowance for the 'decision' technique, say 50 ft, but there is also AIP AD 1.1-6 para 2.6.1 to consider, which states '*When calculating Decision Height (DH), account must be taken of the errors of indicated height which occur when the aircraft is in the approach configuration. Details of the Pressure Error Correction (PEC) should be available from the aircraft Flight Manual or handbook. In the absence of this information a PEC of +50 ft has been found to be suitable for a wide range of light aircraft and should be used. This addition of 50 ft need only be applied to DH*'. So that makes 540+50+50=640 ft, which equates to 3722 metres from touchdown, or well over twice the VMC minimum! So, what do we expect our diligent IMC pilot to do next if the in-flight visibility is any less than these 3722 metres, assuming he/she can actually see the ground – forget about DH and 'convert to visual' with one eye in at the ADF needle and one eye out? Or follow the Stabilised Approach Policy and go-around? Answers on a postcard please. But if our pilot had instead flown a conventional NDB approach down to the recommended 600 ft MDH, planning to fly a level segment all the way to the missed approach point, he/she would merely need to add a little power, level out and truck on in. With luck he/she might then see the runway in time to land, or perhaps need to fly the bad weather circuit technique taught to all IMC/IR(R) holders. If not, the published missed approach procedure would be flown at the missed approach point at MDH, rather than at perhaps a thousand feet overhead. Indeed, where a missed approach procedure includes a requirement to climb ahead from the missed approach point to a specific altitude before turning back to the beacon, an early go-around is very probably going to make things rather awkward as the aircraft may already be pretty close to the beacon at that altitude, making the achievement of a clean beacon overhead somewhat problematic.

Hence it's my opinion that this is a clear case of horses for courses and that notwithstanding their applicability to CAT operations, CDFA non-precision approaches have little or no relevance or benefit to IMC/IR(R) pilots. The conventional non-precision approach technique, preferably following a notional glidepath to the AIP recommended minima, is simpler, easier to fly and will very probably yield a higher landing success rate from the first approach.

IMC/IR(R) in Europe?

AOPA is often asked whether a UK IMC Rating or Instrument Rating (Restricted) may be used other than in the UK. Much as we'd like to see other EASA Member States enjoying the benefit of the levels of safety the IMC/IR(R) provides to UK pilots, the answer is no. As the recent amendment to the Aircrew Regulation clearly states, the privileges of such *'an authorisation issued by a Member State under Article 4(8) of Commission Regulation (EU) No 1178/2011... shall be limited to the airspace of the Member State's national territory or parts of it'*. Which means that neither the IMCR nor IR(R) may be used elsewhere. Incidentally, for those still in doubt, the IR(R) has precisely the same privileges, territorial restrictions, revalidation and renewal requirements as the IMCR; it's only the name which, for reasons of €urocracy, is different.

And finally...

The IMC/IR(R) has been with us for many years and by securing its future until at least 2019 we have finally achieved what was once thought impossible in a 'one rule for all' EASA Europe. Very soon there'll be a clearly defined conversion route for IMC/IR(R) pilots to obtain the C-bM IR at your local ATO, so it looks likely that access to an ICAO-compliant European Instrument Rating will soon be much, much easier than hitherto. And a big thank you to all those who have helped and encouraged us to achieve that! ■

R66 scandal: the other shoe drops

Just two months after *General Aviation's* expose of EASA's dubious dealings over the certification of the Robinson R66 turbine helicopter – and weeks after the Agency issued a furious defence of its position – the helicopter has suddenly and unexpectedly been certified for use in Europe.

At the end of a certification process that had encountered innumerable obstacles and has cost Robinson well in excess of a million dollars, EASA has not required a single substantive change to be made to the helicopter. The R66 which now goes into service in Europe is the machine that could have been introduced here almost four years ago, when it was originally certified by the FAA.

Sources in the helicopter industry who have been driven to distraction by EASA's unreasonable demands and stonewalling tactics credit the article with 'dynamiting the logjam' that mired R66 certification. It led to pressure being brought to bear on EASA from the European Parliament, the European Commission, the FAA and the US Congress, where the US Government Accountability Office sought copies of the article for circulation in Washington.

The original article ran in the April 2014 issue of *General Aviation* and can be read on the IAOPA Europe website www.iaopa.eu. EASA's angry rebuttal is presented in full in this issue, along with our response to its claims.

The fact that just weeks after issuing its denials EASA abandoned its position and certified the R66 with no substantive changes speaks volumes about its processes. It's important to note that bilateral agreements between the US and Europe already exist for rotorcraft certification, and EASA is only supposed to satisfy itself that the FAA's certification was sound, not to rerun the entire process. The fact that this double-checking has led to years of delay and cost the industry millions in lost profits will now be held up as incontrovertible evidence that EASA's certification system is not fit for purpose, and there must be change.

At the end of the process, EASA has demanded that some paragraphs in the POH be reordered and, as a face-saving measure, it has written into the certification the requirement that Robinson do what it was already doing, which is to manufacture the R66 with MS21043 rather than MS21042 nuts.

In the face of shock at the European Parliament over its million-dollar-plus fees to Robinson, EASA has announced that fees for type certificates for new helicopters will henceforth be slashed by 40 percent. That's little comfort to Robinson, which is unlikely to be certifying another helicopter in the near future. But in a final dig at the American company, EASA has made massive increases in the cost of approvals for modifications to Robinson products. The cost of a major mod on the R22, R44 or R66 will rise by a massive 650 percent, from €400 to €3,480, while a complex major mod will rise by the same percentage from €850 to €7,430. It looks like you don't embarrass EASA and get away with it.

EASA: 'No scandal, no stain'

EASA has reacted with fury to the article in *General Aviation* (April 2014) headed 'EASA and the R66 scandal' which exposed its dubious dealings over the European certification of Robinson's turbine helicopter. The article, which was also published in other aviation magazines under the by-line of *General Aviation* editor Pat Malone, has caused serious disquiet in the European Parliament and Commission and EASA has taken the unprecedented step of writing a rebuttal, claiming it contains inaccuracies and misinformation. *General Aviation* stands by the article and believes EASA's attempts to clarify the position raise more questions than they answer, and are in some cases misleading.

EASA's rebuttal runs as follows:

Statement in article: '…four years after the helicopter was certified in the USA… the scandal of R66 certification in Europe is becoming the blackest stain on EASA's already soiled reputation.'

- EASA's clarification: There is neither scandal, nor any stain.

The R66 certification in the EU encountered a number of difficulties, which mainly originated from the FAA decision to exempt the R66 from certain airworthiness requirements, initially setting a lower standard than the one prescribed today by our common EU and US certification rules. Under current EU rules EASA cannot issue 'exemption'. As a consequence EASA instigated and agreed with the FAA and Robinson what is called an 'equivalent level of safety' (ELOS) to such rules. The demonstration of the ELOS was ultimately successful, but it took some time for everyone involved – including Robinson – to close the item to EASA's satisfaction. The Agency cannot release further detailed information without the permission from the applicant.

- ***General Aviation* replies**:
- EASA's failure to certify the R66 is absolutely a scandal, and a stain on EASA's reputation. Disquiet at the European Commission and in the European Parliament is such that the Agency has been forced to respond to the article, something it has never done before. Every statement made in the article is well-founded, and paints a picture of an Agency that has lost sight of its brief – safety – and is instead playing bureaucratic games with political ends in view, while lining its own pockets at the aviation industry's expense. The R66 debacle has cost a hard-pressed industry four years of trade, more than a million pounds directly and much more indirectly, and unless the certification of the R66 in virtually every other part of the world has been a gross error of judgement, the end result will be that when the R66 is finally certified in Europe, a few semantic changes will have been made to some paperwork.
- EASA's inability to do the job efficiently because of the way its rules are written is the Agency's problem, not the industry's. At huge cost in time and money, Robinson has managed to surmount every obstacle placed in its way by EASA. Nothing has been changed in the helicopter; there is no suggestion that safety was at issue. It's not true for EASA to claim that it instigated ELOS – the Agency never made any offer after stonewalling the exemption. The industry found out about ELOS and worked hard to get EASA to recognise it. EASA first agreed formally to accept ELOS, then went back on that decision, and finally allowed it after a delay of more than six months during which its charges rose at an average of more than $1,000 a day. Now it takes credit for something it was dragged into kicking and screaming.

- **EASA says:**

Statement in article: '*…EASA's certification charges are about to top one million dollars and are rising at the rate of around $25,000 a month'.*

- EASA's clarification: This statement ignores the fact that in the European system the industry pays the certification cost rather than the European taxpayer. The principles of the fees and charges system are established by the European legislator and the Agency, as an EU body, is bound to follow them. Commission Regulation No. 593/2007, also known as 'Fees and Charges Regulation' establishes applicable certification fees in proportion to the aircraft class, and to the duration of the exercise. In case of a full aircraft certification, EASA charges fixed fees for the first period of 12 months. After this first period, these fees are determined pro-rata until the certificate is achieved. The sooner an applicant is able to demonstrate compliance with the applicable European safety requirements, the lower will be the final charge.

- ***General Aviation* replies:**
- EASA fails to recognise an economic fundamental by which industry lives or dies. Not only does EASA's scheme of charges constitute restraint of trade, but the more incompetent it is and the longer it drags out certification, the more money it makes. This is not regulation, it's racketeering. Even if EASA was doing a good and worthwhile job – which it is manifestly not – its charges would be unsupportable. The R66 has been fully certificated by the FAA according to rotorcraft standards agreed by America and Europe. Under long-standing bilateral arrangements EASA is only supposed to test the FAA's conclusions, not to duplicate the entire process to make years of work and vast sums of money for itself.

- **EASA says:**

Statement in article: *'Canada also refused to accept the FAA's grandfathering, despite the fact that unlike other turbine helicopters, the R66 remains controllable hydraulics-off.'*

- EASA's clarification:

This is not true. The hydraulics failure mode that was under discussion is unrelated and in no way mitigated by the helicopter being controllable hydraulics-off. As mentioned, FAA had initially 'exempted' Robinson from meeting the related requirements while under EU rules EASA cannot issue such 'exemption'. After additional testing, the FAA and Robinson were able to demonstrate to EASA and other Authorities that the system presented an Equivalent Level of Safety to the requirements. As a result the FAA recalled its exemption.

- ***General Aviation* replies:**
- Not so. There was no additional testing; the servo selector valve is an ingeniously simple piece of engineering that has never failed in tens of millions of hours. The company showed documentary evidence that during R44 rebuilds no spool valve had ever had to be replaced, so it has a 100 percent safety rate which easily exceeds the 10 to the power minus 9 safety yardstick. Creating complexity is easy – that's what tick-box demands for duplicated systems does. Simplicity is hard, but safer. Again, nothing was changed on the helicopter – EASA simply ran out of grounds on which to stall.

- **EASA says:**

Statement in article: *'…the litany of nit-picking that has occupied the last four years is nothing short of incredible. EASA has refused to accept FAA's test results*

on tail rotor authority.'

- EASA's clarification: Not true. This statement is not based on any true facts and has no connection with any real situation.
- ***General Aviation* replies:**
- Again, not so. The tail rotor structural report had to be rewritten to fulfill EASA requirements, and time and money was squandered doing it.
- **EASA says:**
- Statement in article: *'…the Pilots Operating Handbook had to be rewritten because EASA objected to the numbering and sequencing of the paragraphs'.*
- EASA's clarification: This is not true. EASA certainly objected to the actual content of the Handbook, specifically normal and emergency procedures.
- ***General Aviation* replies:**
- EASA's objections to the phraseology in the POH included sequencing and led to rewriting delays that were highly profitable to EASA.


R66
PILOT'S OPERATING HANDBOOK
AND FAA APPROVED ROTORCRAFT FLIGHT MANUAL
RTR 661
THE R66 IS FAA APPROVED IN NORMAL CATEGORY BASED ON 14 CFR PARTS 21 and 27. THIS HANDBOOK INCLUDES THE MATERIAL REQUIRED TO BE FURNISHED TO THE PILOT BY 14 CFR PARTS 21, 27, AND 36 AND MUST BE CARRIED IN THE HELICOPTER AT ALL TIMES.
HELICOPTER SERIAL NO. _____
HELICOPTER REGISTRATION NO. _____
SECTIONS 2, 3, 4, 5, AND 9 FAA APPROVED
BY:
MANAGER, FLIGHT TEST BRANCH, ANM-160L
FEDERAL AVIATION ADMINISTRATION
LOS ANGELES AIRCRAFT CERTIFICATION OFFICE
TRANSPORT AIRPLANE DIRECTORATE
DATE: October 25, 2010
ROBINSON HELICOPTER COMPANY
TORRANCE, CALIFORNIA

EASA's last three points may be taken as one:

- **EASA says:**

Statement in article: *'Two and a half years ago it was discovered that there may be quality issues with a batch of nuts from a contractor who supplies dozens of aviation-related manufacturers.'*

- EASA's clarification: The nuts concerned are MS21042 standard parts. The issue is much wider, and it is certainly not limited to one batch or one manufacturer; deeper understanding of the issue is required.

Statement in article: *'There are thousands of these nuts flying around there, most of them on already-certified aircraft, and EASA is showing little concern over them. (None of the nuts has failed, they're just suspect).'*

- EASA's clarification: It is not true. It has been well documented by different authorities that a number of these MS21042 self-locking nuts have failed, mostly through a single or multiple longitudinal cracks. EASA is closely following the issue in coordination with other authorities and among other actions has issued Safety Information Bulletin 2012-06R2 as well as a number of Airworthiness Directives on different products (e.g. 57-10-06-18, 2013-0225-E, 2013-0265-E, 2013-0273-E, 2013-0300-E and 2014-0037).

Statement in article: *"The Robinson R66 contains none of these nuts. However they are L4 and could theoretically fit on R66".*

- EASA's clarification: Again, it is not true. All Robinson products, including the R66, make extensive use of MS21042 nuts, including in the L4 size. Robinson has issued correspondingly R66 Service Letter SL-01 titled "Cracked MS21042L-series Nuts". Accident reports involving MS21042 nuts on Robinson helicopters are publicly available, for example ATSB AO-2011-016 or AO-2011-135.
- ***General Aviation* replies:**
- Robinson recognised the hydrogen embrittlement issue early and puts out the R66 not with MS21042 nuts but with MS21043 stainless steel nuts. EASA says that possible later replacement with MS21042 is a safety issue, but why is R66 certification at stake? Virtually everything that flies contains standard hardware MS21042 nuts. Under the bilateral, EASA supposed to issue an Airworthiness Directive if it has a safety concern. There has been no such AD. If R66 certification can be stalled because of this, EASA's duty of care would require it to ground many European and other aircraft already certified, some during the same timeframe. It's hard to avoid the conclusion that this issue is simply a stick to beat Robinson with.

American companies are deterred from seeking European certification because the cost and bureaucracy is unbelievable. European companies going to America get speedy certification at minimal cost, but for how much longer? The US Congress is now looking at an "equal level of pain" standard which would hammer European companies as hard as Europe hammers Americans. That panders to the protectionist enclave mentality that subverts the European ideal. EASA is correct in saying I'm biased – in favour of good sense and against what I consider to be an unaffordable bureaucracy which adds no value. EASA and its certification systems must change.

Pat Malone. ■

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A Pilots' Spring?

Long-awaited change at EASA electrifies the Regional Meeting of IAOPA-Europe. ***Pat Malone*** *reports*

After more than a decade of banging our heads against the brick wall that is the European Aviation Safety Agency, could it be that the bureaucracy that rules out flying lives is finally listening to us? Could we be seeing a "Pilots' Spring" that transforms the relationship between EASA and general aviation? EASA is talking the talk – will it walk the walk?

In his opening remarks to International AOPA-Europe's Regional Meeting in Reykjavik, Iceland, Secretary General Craig Spence said there was clear evidence that IAOPA's relentless campaigning to convince European regulators that EASA was on the wrong path was finally bearing fruit. "Changes in attitude at EASA have captured a lot of attention around the world, particularly in the United States," he said. "The hard work of the people at IAOPA Europe finally seems to have gotten EASA's attention – it's an exciting time and we hope we can look forward to real change."

The Regional Meeting almost foundered – ironically – on a one-day strike by Icelandair pilots the day before the conference, which had delegates scrambling around for alternative transport with less than 24 hours to go. At one point it was feared that some AOPA people wouldn't make it, but thanks to frantic juggling of flights and airlines everyone managed to get to Iceland in time.

Swiss delegate Philippe Hauser made the most commendable effort, flying from Zurich to Frankfurt, back to Zurich and on to Keflavik via Copenhagen. AOPA Austria came in their Cheyenne, a nine-hour flight with a stop on the Isle of Man. AOPA UK had a relatively easy time of it, finding a route via Copenhagen. The last delegates arrived in Iceland 6am, three hours before the meeting started.

Some 28 AOPA representatives from 18 countries attended the meeting, which came at an exciting time with the European Aviation Safety Agency pledging to change its approach to general aviation, and looking like it means it. Delegates were able for the first time to meet Ulrich Stockmann, the former MEP who now acts as International AOPA's lobbyist in Brussels; IAOPA General Secretary Craig Spence also came from the United States, Kevin Psutka from Canada,

Iceland
the aviator's home

For the first time, Iceland is hosting the Regional Meeting of IAOPA Europe in May. ***Haraldur Diego*** *sets the scene*

Placed on a geographical hotspot, where the two tectonic plates expand away from one another, Iceland provides landscapes like no other. A world like no other, filled with glaciers, active volcanoes, lakes and green pastures. A place where you can go from black, sandy beaches to glaciers in five minutes, and might have to wear your sunglasses in the middle of the night. And, a place that's only two hours flight time from London in a Boeing, a few hours more if you're flying a Cessna.

It is also a home to many pilots, aircraft and even a few airlines. Icelandair and WOW Air fly use Keflavik Airport as their base, transporting people to and from the island. A few Icelandic operators optrate into Greenland, and then there is the ACMI operator Air Atlanta Icelandic that flies passengers and freight mostly out of and into Saudi Arabia. Icelandic planes traverse the world every day.

Perhaps due to Iceland's small population of 330,000, the inhabitants like to refer to per capita statistics and proudly proclaim high rankings in many areas. It may be interpreted as a sign of grandiosity, but they like to call it coping mechanism for living in this harsh environment. By those statistics, Iceland has the highest number of jets, airlines, pilot certificates, Linked-In members, and tractors. Admitting no defeat, Iceland comes in number two when it comes to car ownership, next to the US.

Planes, trains and automobiles

Not losing the train of thought here, but this article's focus is on the state of aviation in Iceland, the only European country without a railroad system, and understandably so. The 103,000 square kilometer island is sparsely inhabited, with 80% of the population living on the south-west corner and the rest mostly in towns and villages around the coast. One 1332 km circular road connects most parts of the country and is well utilized over the few summer months by foreign visitors in rental cars (or their own) and a few bicycles. Alongside that ring ro you'll find a number of airfields, grass or gravel. Before the conn road was opened, those airfie as the main means of t between parts of th railroads, like mo

Piper Warrior TF-SPA gets close to Eldfjallajökull while planes 1000 miles away were grounded by volcanic ash.
Photo: Óskar Sigvaldsson

34

Top: 28 delegates from 18 countries gathered in the Icelandic sunshine for the IAOPA Europe Regional Meeting
Right: Secretary General Craig Spence (right) speaks of hopes for change at EASA as Senior VP Martin Robinson looks on
Above centre: flying in Iceland featured in the last issue of **General Aviation**

and Frank Hofmann, IAOPA's representative at ICAO in Montreal.

The Regional Meeting was the first to be hosted by AOPA Iceland, and a strong local contingent led by Valur Stefansson and including Matthias Sveinbjornsson, Reynir Thor Gudmundsson, Haraldur Diego and Siggi Jonsson worked manfully to make sure nobody got lost. Our thanks were conveyed to them by Craig Spence and IAOPA Senor Vice President Martin Robinson, who chaired the meeting.

Topics under discussion included EASA and the European Parliament elections, which were being held in the week after the meeting, lobbying and political education, pilot recruitment and statistical trends, SESAR and the Single European Sky, ADS-B and other potential equipage mandates, ICAO language requirements, and remotely piloted vehicles. AOPA Iceland gave a presentation of Reykjavik's downtown airport, which is under threat from politicians backed by property developers' money, and which AOPA is fighting to save.

The Regional Meeting serves many purposes. It explains to every AOPA in Europe what the organisation is doing internationally, and allows delegates to influence the approach of the Executive in all things. It gives delegates a platform to explain what their specific problems are with their national authorities and in their areas, identified common themes and shares knowledge of how they are tackled elsewhere. It gives people the understanding to explain to AOPA members in every country what is being done with their money, in their own language. (Hence this magazine).

Martin Robinson commented that GA has suffered terribly from having a plethora of voices, some claiming to represent hundreds of thousands of pilots, while having no members, no reporting systems to general aviation pilots, and no money for lobbying. Organisations like EASA are able to choose such people to fulfil the requirement on the Agency to consult with industry, and in some cases, those people are personally able to profit financially from their relationship with EASA. In Britain's case, this situation came within a whisker of killing off one of our most highly prized safety aids, the IMC Rating, which was only preserved after a long AOPA campaign. But there are clear signs, Martin said, that EASA recognises this situation cannot continue. Among these is the fact that when he retires later this year, EASA's Head of Rulemaking will not be replaced. "What they're saying is that they've got enough rules for now, and they don't want any more being written until these have bedded down," he said. "This is a major change – the EASA mill has been churning out rules for a decade, and there were those who thought it would go on forever.

"EASA has stated publicly that it wants to improve its relationship with GA. This is the result of IAOPA's sustained campaign down the years to demonstrate the damaging effect EASA was having on the general aviation industry. This has not always won us friends, but without it, EASA would not now be talking of the need to do things differently. They are beginning to adopt our language – risk-based regulation with proportionate oversight. We are going to hold their feet to the fire to ensure these fine words are translated into action." ■

Below: day-long meeting is designed to inform members everywhere of what's being done to protect their interests

Lawmakers, lobbyists and money

***Ulrich Stockmann**, IAOPA's man at the European Parliament explains the facts of Brussels life*


Former MEP Ulrich Stockmann (right) with AOPA Germany Managing Director Dr Michael Erb

Making friends and influencing people in Brussels is not simple, not straightforward, and not inexpensive. International AOPA's representative in Brussels is Ulrich Stockmann, a former Member of the European Parliament who now lobbies on transport issues and who has been paving the way for IAOPA's next big push in Europe – the process of educating the new intake of MEPs, due after the May elections, about what general aviation is and why it needs their help.

Ulrich, a member of the European Transport Committee for seven years, has a fascinating background. He was an architect and a Lutheran pastor in the former East Germany who became a politician after the Berlin Wall came down. He outlined to the meeting the structure of a European lawmaking system that is bewilderingly complex and can only be navigated by those with insider knowledge of who really has the power, and how it is welded. You need to know which individuals and which groups and sub-groups can influence events, and things are not always what they seem. Ultimately, you need to know how to play the system to get what you need.

IAOPA has joined with the European Business Aircraft Association (EBAA) and the European Regional Airline Community (ERAC) to take a joint approach to the many aspects of lobbying where we have common interests. The foundation of successful lobbying is not meeting with specific people to discuss specific issues, but a slow and sustained process of relationship-building which educates and explains. The advice from Knut Fleckenstein MEP, one of the most influential members of the Social Democratic group which has most of the power in the Parliament, is to have a 'friendly face' walking the corridors, knowing who can open doors. The major airlines, equipment manufacturers, big airports, all have such friendly faces doing their bidding – often crowds of them. And they don't like wasting money. But they know what has to be done.

Ulrich used the word 'sustainability' almost as often as the Greens do; sustainable lobbying means being a permanent part of the process, so that legislators dealing with an issue expect you to knock on the door, and you in turn expect to be taken seriously. Last year IAOPA launched a successful kick-off event at the European Parliament, reported extensively in this magazine last year. But efforts have been directed towards preparing the ground for the new intake of MEPs who are due to start work in July, but won't really get down to it until later in the year.

It's important to understand over-arching European transport strategy, and to ensure that you present your case in a way that goes with the flow. Europe aims to optimise its transport system, which it sees as fundamental to the working of the internal market. That works in GA's favour; we can be seen as an integral part of a transport strategy in an area no-one else serves. Harmonisation is part of the European gospel, something we have to work around. Europe stresses intermodal integrated transport, so that rail, air, road and other transport forms operate together seamlessly – and here, too, GA does not go against the grain. Other buzzwords are safety and security, environmental protection and reduction of climate impact, passenger rights, and sustainable development of infrastructure.

Turning to the nitty-gritty of getting things done, Ulrich explained Europe's multi-stage processes of decision-making, where discussion of principles and details supposedly takes place between the European Commission and the industry, then the Commission interacts with the Parliament, and finally the Parliament establishes the law in conjunction with the Council of Europe. The system is extraordinarily complicated, even for those who understand it, but unless you know where the buttons are, you're wasting your time. In many cases, irrevocable decisions are made without Parliament being involved.

Parliamentary treatment of GA was poor or non-existent until IAOPA's relentless

GA suffered at airports because of 70 airline complaints about Ryanair

work began to get through six or seven years ago; MEPs began to be aware of the value of the industry, its reach and its potential, and called for the production of data – the document known as 'Towards a Sustainable Future for General Aviation' set out 30 points which needed to be addressed to give GA a way forward. Unfortunately, said Ulrich, there had been no progress on any of these points.

GA suffered at airports, he said, because guidelines for airports had been triggered by about 70 airline complaints about Ryanair, which resulted in the issue being transferred from the transport office DGMOV to the competition department DGCOM. The result was collateral damage to smaller airports, in which the Parliament had no say. "It's important to link this process with the Parliamentary process and the Parliament's supervisory role," he said. Where Parliament was not directly involved in decision-making it can still influence events, for example through its control of EASA's budget.

National AOPA's have a major part to play in influencing their own MEPs to bring issues to the European Parliament. Lobbying begins at home, not in Brussels. All MEPs have regional airports and GA aerodromes… they should be encouraged to get to know them. But only by being proactive in Brussels can we force change to enhance the image of the industry in the Parliament. "Lobbying is a necessity," he said. "It is often viewed negatively, but it's vital for success. Legislation always reflects the balance of interests of those affected at any given time. The politically contentious points must be made clear to the MEPs. They need facts and figures – the rule is that if you want to change something, you have to bear the burden of proof, you have to demonstrate consequences, and promote correct solutions, and you have to get your data to the right people."

there's a lot of scope for winning an effective campaign, a very real possibility that we can influence the direction of European legislation

With EASA showing signs of changing the way it deals with GA, the time is right for effective lobbying. "I believe there's a lot of scope for winning an effective campaign, a very real possibility that we can influence the direction of European legislation," Ulrich said.

Martin Robinson, chairing the meeting, outlined IAOPA's 'GA Connecting Europe' campaign, which played strongly to basic European concepts and said he was hugely encouraged by the decisions of the EBAA and ERAC to come together with IAOPA and help provide the resources that were needed. "In Ulrich Stockmann we have a representative who is widely respected in the Parliament and his influence gave us our first major success, when we met with some of the big hitters in the influential groupings and were given the opportunity to begin to outline our case. They recognised that there is no point regulating an industry if you regulate it out of business – if you can't grow your businesses, there will be nothing left to regulate.

The newly-constituted Transport Committee will meet for the first time on July 7th, and IAOPA will be there in front of the new Chairman from day one. There is also to be a new Transport Commissioner at the EC – a Portuguese with no GA knowledge, who will have to be educated. In the medium term, the job is to capitalise on the opportunity to change the EC's Basic Regulation governing what EASA can do.

Martin said the new head of EASA, Patrick Ky, understood GA far better than his predecessor. "Over the past few years the UK CAA has been changing in our favour, he said. "We have in Britain an important and influential politician who is also a pilot, and he operates his aircraft on the American register (laughter). Patrick Ky met with this guy, whose name is Grant Shapps, and soon after he announced this new way of approaching the regulation of GA. There is to be a conference on GA in Italy later this year, and we hope genuine change will result." ■

Boxing clever with ADS-B

Progress takes us back to square one on electronic conspicuity systems

National Air Traffic Services in the United Kingdom has approached AOPA to organise flight trials for prototype lightweight, portable ADS-B systems, joining NATS in bidding for funding to develop such a system to increase interoperability of GA with CAT in future airspace.

Martin Robinson said AOPA had acceded to the NATS request, and if NATS was successful in winning its bid to develop such systems, it would get 50 percent of its money back from Europe. The consortium would include avionics manufacturer Trig and the German company Funkwerk and the aim would be to produce a battery-powered system that met all regulatory requirements and sold for around €1,000.

Martin said: "This has come about through efforts by Michael Erb and myself to show that while the Single European Sky Research Project SESAR had recently been in receipt of €600 million in European funding, less than 0.01 percent of that was going to general aviation."

But all is not quite as it seems, he cautioned. The US is far ahead of Europe in ADS-B rollout, and has in fact completed its ground installations. ADS-B boxes already exist, but Europe's "not invented here" stance militates against American boxes being used. And the imperative for ADS-B equipage is being driven because it's the only way remotely piloted aircraft (RPAs) can 'sense and avoid' other aircraft.

Frank Hofmann IAOPA's representative at ICAO, said IAOPA's position on drones was set out many years ago – no additional equipage, no restriction in airspace, and they must have the same detect and avoid requirement as we do. "The RPA industry is hugely powerful," he said. "How safe is it to rely on ADS-B? Ten percent of the GA fleet worldwide has no electrical systems. Batteries run down, units fail… it would be fine if we could rely on a system other than the pilot's eyeballs, but ADS-B is the only system that's remotely useful for RPAs."

Michael Erb, Managing Director of AOPA Germany, said: "The political process will follow what the RPA industry wants. Why are we starting research on equipment that's already working in the US? Why not buy an airline ticket to Washington and fly around in ADS-B equipped aircraft provided by AOPA? If that's too expensive for them, why not look at Youtube and you'll find the FAA explaining every aspect of ADS-B, how it works and why it's so beneficial.

"Progress is so slow in Europe that it is costing lives. The integration of weather information in the US had already saved lives, while we are having an average of 17 mid-air collisions in Europe every year, and half of them are fatal. They can ignore our business case, but if they can ignore our safety case it's getting hard to tolerate."

Dr Erb has been a member of the SESAR Executive Committee since the beginning – almost a decade ago – and has become profoundly frustrated at the lack of progress. "Everything goes into the big bin," he says. "Good things from NextGen in the United States have already been implemented over the same timescale, while we are still talking about the development phase. They are dominated by the major airlines and the major hub airports, and we cannot seem to make them understand that we do not all have Flight Operations Centres and the system has to be accessible to someone who is standing on an apron with a smartphone. They have no idea how to take our money, or how to invest for what we need. They talk about increasing cockpit automation so humans can concentrate on 'higher-value tasks', and they don't know why that has no relevance to us."

The EC has agreed with IAOPA's request that no equipment should be required to be installed without a business case to support it, but when it comes to action, the EC keeps prevaricating. Dr Erb said: "After eight years of working with SESAR I'm totally frustrated. We have provided them with thousands of papers and they don't even pass them on to other parties. We produced a Concept of Operations, we spent ten days in Brussels with ten people, but nobody reads it – we are ignored, our contribution is shelved. Other parts of SESAR are not even aware of what we have done.

"With ADS-B, we did many hours of flight trails at Egelsbach in Germany in 2001, and those studies are sitting on a shelf somewhere while in 2014 they want to start again. On the one hand we would be stupid not to support these activities and achieve something for GA, but 95 percent has already been done. I'm a patient guy, but I'm just wondering if any of it is worthwhile." ■

Below: Dr Michael Erb (Germany), Jacob Pedersen (Denmark) and Rafael Molina (Spain) Right: ADS-B is the only way remotely piloted aircraft (RPAs) can 'sense and avoid' other aircraft.

GA's new coal face

Another committee has been established to look at where EASA has gone wrong

Jacob Pedersen of AOPA Denmark gave an update on the work of the GA sub-committee of the European Safety Standards Consultative Committee (SSCC), on which he and Dr Michael Erb of AOPA Germany have seats. Jacob said that some years ago IAOPA made a presentation to the EASA Board of Management on general aviation regulation. Martin Robinson had made such a good impression that every European state supported a statement that the regulations were not fit for GA, and as a result a Working Group headed by the French DGAC was set up to produce a 'European GA Safety Strategy', which the EASA Board of Management turned into the 'Road Map for GA Regulation'. As part of this, the SSCC was formed.

The Road Map, Jacob said, contains a lot of principles we can all support – stock AOPA phrases such as "one size does not fit all", "regulation must be relative to risk", and "grandfather rights must be respected unless there is an overriding safety case", "bureaucracy must be minimised", and "delegation to industry should be considered wherever possible" – all these form part of the Road Map. A permanent chairman for the SSCC sub committee is to be elected in June, and Michael Erb is a candidate. Unlike the interim chairman, he believes that the sub-committee should not deal solely with the sport and recreation end of GA. "Further dividing GA plays to the classic 'divide and conquer' strategy we often encounter," Jacob said.

The sub-committee's strategy has been to divide ideas into proposals which can be fixed easily, and projects which need a more long term approach. Proportionate initial airworthiness procedures were required, the concepts of minimum equipment lists and emergency management systems needed to be examined more carefully. "In some cases people are not putting glitches into flight logs because they know the rules on recording defects would cause the grounding of aircraft unnecessarily," Jacob said. "That's not doing anything for safety."

The idea is to bring back "good pilot practice" in place of rigid centralised rules, and to look at whether a situation was safe instead of having stringent procedures and minimum equipment lists for everything.

Major modifications and the associated requirements, foreign repair stations and the rules governing their work, flight standards projects, validation of third country licences, conversion of Registered Facilities to Approved Training Organisations and the added bureaucracy and cost involved in all of these are on the committee's 'to do' list. Language problems are serious for GA in Europe, especially as the number of Radio Mandatory Zones proliferates.

Sim madness

One example of counter-productive regulation Jacob highlighted was the requirement to perform check rides for high performance aircraft in simulators. "The current regulation says that if there's a simulator anywhere in the world, it must be used for your proficiency check ride," Jacob said. "This is a gift to the sim owners, like Flight Safety. Instead of taking a check in your own aircraft, you have to call up the sim company and in some cases travel to other continents to where the sim is. And the sim company will only sell-you a week-long course, using their own instructors, at huge cost. And there's no way around it. This is now a huge issue for pilots of high performance aircraft."

Another safety-critical issue concerned the definition of "passenger". If you haven't flown for some time, it's been possible up to now to take another pilot as a safety second pilot while you did your three take-offs and landings. But now, that pilot is designated a passenger, and you cannot carry him unless you've done three take-offs and landings… This definition, Jacob said, needs to be looked at.

Oxygen carriage requirements were also counter productive, he added. As the rule stands, an aircraft without oxygen cannot fly above 10,000 feet. This leads to non-oxygen planes which just want to occasionally cross mountains dicing with the peaks in order to stay legal, when it would be much safer to climb for short periods. Icing requirements led to similar problems.

The definition of 'commercial' in the Basic regulation needs to be fixed, as does some other terminology. "Based on what we've done so far, a new regulation out last month, 379/2014, introduces an exemption from the commercial regulations for introductory flights, competition flights and flying display operations, parachute dropping and glider towing, and allows cost-sharing by up to six private individuals, also for competition flights and displays, all applicable from July 1st. While these ops are exempt from the commercial requirements, they're still commercial, but it's stated that they can be conducted with a PPL or a LAPL. I've not found two people giving me the same view of what constitutes commercial operations," Jacob said.

"One criterion is whether the customer has control over the operation. But what does that mean? EASA says the idea is to allow fractional ownership, where you can be said to have control over the operation as a customer. But they won't put this in writing… EASA says the court must decide what EASA means. So the frustrating problem for us is that if you are an operator, you don't know what your status is in Europe. It's possible that all club operations could fit under the umbrella of non-commercial, because as a member you have some sort of control over the operation. But we need the Commission to come out with an interpretation, or we need the wording to be fixed." ■

IAOPA at ICAO

First the good news – you're not going to have to install a cockpit voice recorder in your plane. Frank Hofmann, IAOPA's representative at ICAO on Montreal, reported that he had been able to engineer an exemption for all aircraft with six or fewer seats. "Had we not been there to speak up for general aviation, this would have been an ICAO rule," he said.

Now the bad news: EASA is bringing forward a proposal for Flight Data Recorders in all new aircraft. Martin Robinson reported that while the proposal covered only new aircraft at the moment, it would eventually be proposed for retro-fit. "This is something we have already started to instil a sense of perspective at EASA about," he said.

Reviewing his work at ICAO over the last six months, Frank said language requirements was an issue that wouldn't go away – and it was especially problematic in Europe where there were so many languages and relatively well-developed GA. "I did a survey of AOPAs and found that the cost of getting a language proficiency certificate varies greatly – up to €600 in the case of Austria," he said. "Philippe Hauser of AOPA Switzerland has developed some proposals on this, and ICAO's European office is inviting IAOPA to address ICAO on the need to co-ordinate language requirements across European states."

The Multi Crew Pilots Licence (MPL) was causing concern over the quality of graduates at a time when the diminution of flying skills and its relationship to accidents was under scrutiny. Lack of hands-on flying skills was clearly an issue in some cases, and while encouraging the MPL on one hand, authorities were looking at introducing upset recovery training on the other.

"For GA, that would probably mean more qualified instructors and dedicated aircraft which would increase the cost of training by five to ten percent," Frank said. "We used to do spin training in Canada, but we did away with it because in Canada at least, it was killing more instructors than it was saving people."

ICAO has been looking at replacement systems for ELTs, having finally come round to IAOPA's view, stated many years ago, that they don't work reliably and should not be mandated. "Because of the Malaysian 777 ICAO is under pressure to introduce a hurry-up fix for aircraft tracking. Just as the ELT concept was flawed, so rushing into a tracking fix risks getting it wrong.

"I was at the Air Navigation Commission meeting last week – this is the group of experts provided by the CAAs around the world – and I was the only person who had ever used a tracking device or could explain how they worked. They will be mandated for commercial operations by November. The initial standard will be for the airlines, but the worry is that this will automatically be transferred to GA. We have to ensure that any regulation is proportionate for GA." ■

Saving Reykjavik

AOPA Iceland is preoccupied by the preservation of Reykjavik's Vatnsmyri airport, a fabulous asset to the country's transport infrastructure but one that is under threat from politicians backed by property developers.

An airfield since 1919, it was laid out by the British in the three-runway configuration during the Second World War and is still a hub for international services to Greenland and the Faeroes, as well as being at the centre of Iceland's domestic route network. Last year it handled 340,000 domestic and 42,000 international passengers. Non-scheduled operations from the airport include air ambulance and SAR flights, and it supports about 700 jobs and some 600 aviation students.

There is strong public support in Reykjavik for the retention of the airport, but the property developers have the politicians in their pocket and seem to be winning. Siggy Jonsson of AOPA Iceland said: "Three our of four voters in Reykjavik want the airport to stay, and more than 80 percent of people out in the country. But if you want to know why the politicians defy them, follow the money."

The situation at Vatnsmyri mirrors that at many general aviation airfields in Europe and around the world. Delegates spoke of airfields in the UK, in Denmark, in Norway and elsewhere where the pressures were identical.

Siggi Jonsson of AOPA Iceland outlines the threat to Reykjavik's downtown airport

State of the continent

Affiliates were asked to outline the most pressing domestic issues they were dealing with, and predictably, the problems are similar everywhere. Airfield closures and restrictions are near the top of everyone's list – from Manston in England to Dübendorf in Switzerland via Oslo in Norway.

Jacob Pedersen of AOPA Denmark spoke of AOPA support for smaller regional airports where traffic has been declining. "We have been working with the Danish CAA to increase the utility of these airports by having a system of IFR approaches down to VFR minima," he said. "The biggest construction project in Denmark's history is the bridge to Germany, yet engineers must travel three hours from Copenhagen to reach it. There is a VFR aerodrome very close to the bridge, but it is ignored because it has in IFR approaches. If we can encourage more services to us it, everyone wins."

AOPA Denmark is also working to establish a body for handling complaints against the CAA. The only body you can complain to in Denmark is the CAA, which is investigator, judge and jury in its own case. The CAA must also approve people who are nominated for posts in the aviation world – so nobody dares complain about anything."

There is also a campaign in Denmark called "report a strange rule". There are many national rules that have been effectively superseded by European equivalents and no longer make sense. Old national rules on cost-sharing or taking work colleagues flying need to be got out of the system.

AOPA Romania's Andrei Zincenco said they were working to get the authorities to reduce the size of controlled airspace by making terminal airspace conform more closely to the real needs of aircraft. It has responded to the need for flight plans to be filed every day by creating a smartphone app in which members can record all their information, then simply add the relevant details for the flight and send it at the push of a button. Norway has serious airfield issues, particularly at former military sites. Rafael Molina of Lennart Persson reported on the Swedish authorities' over-zealous interpretation of EASA rules which is squeezing he life out of GA. The CAA has also increased some fees by 300 percent. As a result AOPA Sweden had begun producing a guide on how to move your licence to Denmark. Unfortunately the Danes were talking about increasing their fees, so Sweden had begun looking at fees in Poland. "The Czech Republic charges only €20 for a licence, and you get a cup of coffee when you go to the office," Lennart said.

AOPA Spain said the Association was establishing two new sub-divisions, one for aerial work and one for GA airfields – and they had succeeded in having landing fees premiums for passengers eliminated, saving around €30 for a four-seat aircraft.

For AOPA UK, Martin Robinson said an increasing problem was French authorities impounding British N-registered aircraft. "To circulate freely in Europe you need a certificate to show VAT has been paid," he said. "But VAT was introduced in 1982, and the tax authorities refuse to give pre-1982 aircraft a document saying VAT has been paid. So the French are impounding these aircraft and demanding in some cases three times the value of the aircraft to release them."

Right: IAOPA's ICAO representative Frank Hofmann, Craig Spence, and Canadian AOPA's Kevin Psutka

In Germany, owners of older Cessnas are being crushed by the authorities' interpretation of Cessna Special Inspection Documents, which in some cases require the removal of wings to check for corrosion and effectively render an aircraft only fit for scrap. "They are refusing to accept EASA's interpretation of EASA's own rules, so one third of our fleet are affected and many pilots are going to give up their aircraft," said AOPA Germany MD Dr Michael Erb.

Anton Koutsoudakis of AOPA Greece said the breakthrough recently made, when Greece legalised seaplanes, was running into problems because port authorities were complaining they could cause accidents. "Their agreement is necessary, and we are trying to find a way round it," he said. There are serious problems with pilot licensing, too – the issuing of licenses has been privatised and has got into a mess, a particular problem as Greece has been promoting itself internationally as a destination for flying students, who need their licences at the end of their courses.

For the hosts, Iceland, Haraldur Diego said that apart from the threat to Reykjavik airport, the main problem now and in the foreseeable future was encouraging young people to take up flying, both as a profession and a pastime. Student numbers are declining, costs are rising, bureaucracy is out of control… situation normal. ■

Pilots of tomorrow?

Where will tomorrow's pilots come from? Kevin Psutka of the Canadian Owners and Pilots Association has analysed trends in his own country and found that while the number of professional pilots' licences was on a rising trend, the number of Canadian pilots in training was falling – the difference being the number of foreign pilots who came into the country for training.

Military pilots, once a significant resource for airlines, are no longer a major factor – Canada trains about 300 pilots a year for its armed forces. "Governments will wake up late to a developing pilot shortage," Kevin said.

The industry has changed radically in the past generation, Martin Robinson said. "Since 911, no youngster has been able to visit the cockpit," he said. "For some people, the profession no longer offers the standard of living, the security and the respect it once did. With airlines like Ryanair no longer employing pilots directly, the old vision of flying as a glamorous, respected and attractive career is no longer inspiring youngsters."

What's in a name?

The conversion of Registered Training Facilities to Approved Training Organisations is causing headaches all over Europe. Lennart Persson of AOPA Sweden said that of the 60 RFs in Sweden, about half will probably have to stop trading if they have to comply. "That means fewer pilots, fewer aerodromes, and an industry that cannot stay in business… and for what?" he asked.

In Germany, Michael Erb said the situation was complicated by the fact that 40 regional governments all had a say in the interpretation of the regulations, and very few of them were able to agree. Martin Robinson said that in the UK, RFs had effectively been granted grandfather rights by the CAA. "This is on the basis that human rights legislation makes it impossible for them to take someone's livelihood away," he added. "The problem then comes with the audits, which must be completed within two years. We are now working with the CAA to streamline the audit system." ■

Oil and understanding

EASA clearly does not understand the risks it is regulating. An example is the 'dangerous goods' regulation which prevented a GA aircraft from carrying a quart of engine oil in the aircraft, because it might represent an 'environmental hazard' in an accidental spill or a crash.

Over the past five years IAOPA has argued that it is essential for some aircraft to carry spare engine oil, if they are operating to remote airstrips where oil may not be available. They cannot be forced to fly back with their engine oil running low simply for misperceived safety reasons.

Martin Robinson and Michael Erb had met with Jules Kneepkens, EASA's Head of Rulemaking, and stressed that IAOPA considered the inability to carry spare engine oil to be a serious safety issue. Mr Kneepkens said that he saw their point. A few weeks later, EASA announced that aircraft under 2,000 kg would no longer need to carry official documents which proved they were entitled to carry some engine oil.

While that seems to be a solution on the face of it, it's a bureaucrat's get-out that doesn't address the problem. Jacob Pedersen of AOPA Denmark, who has been IAOPA's lead on dangerous goods legislation, said: "You don't have to carry the document, but you still have to conform to all the rules. In order to carry some oil, the pilot still has to do the classes in handling dangerous goods. All they've done is take away the requirement for certification.

"We had a meeting with the EASA expert, a very nice lady with absolutely no understanding of general aviation. She confirmed to us the new initiative that aircraft up to 2 tonnes are exempted from having a certificate, but no more."
Martin Robinson questioned the thinking behind a weight limit anyway. "Did you ever meet an aeroplane that knows its own weight, or how many engines it's got?" he asked.
"A few years ago I said EASA would become a safety issue. That has effectively come to pass. We have an awful lot of work ahead of us to reset the system."

IAOPA World Assembly

The 27th IAOPA World Assembly is being held this year in Beijing, and the programme is slightly different from biennial assemblies in the past, General Secretary Craig Spence said. On the first day, the World Assembly will combine with China's Low Altitude Economic Summit, giving those who are trying to develop general aviation in China an opportunity to meet with those who operate in a mature GA environment.

"The market in China is key to the future of general aviation across the world," Craig said. "It's a matter of sheer numbers. Even if China only achieves a fraction of the GA activity the US has, you're still talking huge numbers – the potential for pilot training, manufacturing, equipment sales is vast, and the opportunity is there for IAOPA to get in as a key foundation stone of an industry which will pay dividends in future."

Chinese TV will be highlighting the IAOPA World Assembly with a special programme on general aviation, while CNN is also making a TV special in Beijing.

The resolutions made at the World Assembly are agreed on by all AOPA delegates and effectively dictate the organisation's programme for the next two years. Senior Vice President Martin Robinson said: "International AOPA is the only general aviation organisation that develops national and international positions, voted on by affiliates to form the basics of a strategy and communicated to members to whom we are directly responsible, and who support us and rely on us to represent their interests." ■

Farewell, Ruth Moser

Delegates voted their thanks to Ruth Moser, who retires this summer as Administrator of International AOPA, based at AOPA US headquarters in Maryland. "We're losing a valuable asset and a friend," said Secretary General Craig Spence. "Ruth has been the eyes, ears, voice and heart of IAOPA for 22 years and her departure leaves a huge void." Senior Vice President Martin Robinson added his personal tribute, saying that in the near-20 years since he first met Ruth his life had been eased and enhanced by her hard work, insight and ability.

Some of our AOPA Iceland hosts – from left, Matthias Sveinbjornsson, Reynir Thor Gudmundsson and Haraldur Diego

Mooney magic

***Lembit Öpik** has owned two Mooneys, each with its own character and quirks. Here he reviews the strengths and weaknesses of one of the most distinctive shapes in light aviation*

'Hard to land. Very tricky.' These words of advice were given to me by a pilot in mid-Wales when I mentioned a newly formed Mooney Syndicate at Welshpool Airport. His words filled me with curiosity. *How* hard to land, I wondered. *How* tricky?

And so I read up on Mooneys. What I found out wasn't particularly enlightening. Most reviews were more interested in their sporty handling and remarkable cruise speeds – and the fact that the model started back in 1955, with few changes to overall appearance ever since. There was little on whether these were problematic in final approach and round-out. So, almost on impulse – and without ever having flown in one – I signed up to a 1987 Mooney M20J.

The M20J syndicate had its share of problems. On the face of it, these potentially confirmed the difficulty of landing a Mooney. A couple of prop strikes – and three engine rebuilds – later, the syndicate disintegrated amid accusations of poor team play and bad airmanship. Only two members of that group survived as a flying unit: Dave 'Speedy' Tinsley and me. The previous syndicate had failed but not because of the Mooney. We pooled resources and purchased our second Mooney – this time an older M20C dating back to 1977. By coincidence, Dave had actually owned this aircraft before but once we purchased it undercarriage improvements, a new Garmin GPS and a three blade prop transformed it into a new aircraft.

The M20C is a more humble aircraft than the fuel injected and full auto-pilot wielding 'J.' It's also 20 horsepower less potent at full chat. However, in every other sense, the 'C' has turned out to be an almost unbelievable balance of economy, taut handling and comfort - especially for those in the front of the aircraft.

The first thing you notice about Mooneys as you walk up is the 'back-to-front' tail assembly. Just about anyone who sees a Mooney for the first time comment on this quirky feature. And it's true: it does look like some wayward mechanic has installed the high tail fin wrong way round. But contained within it is an all-moving tail plane, obviating the need for a separate trim tab. Mooneys are all about speed and this arrangement reduces drag, adding knots to top end.

The second thing is the suspension. Mooneys squat low on what looks like a pile of rubber rings. There is debate about whether this is better or worse than more normal designs. But Mooney swear by the system and, as long as it's well maintained, it provides firm and effective suspension.

The walk round is pretty standard. As with any low wing aircraft, it can be a drag on wet and windy days to crawl around underneath checking fuel drains and wheels, but that's a shared chore for anyone used to Warriors and so on.

Austin J Brown

Above: Mooney M20C – slightly more humble than the 'J' model
Above right: syndicate's first M20J had 20 more horses and an autopilot
Right: thoroughly modern Mooney – the turbo-boosted M20R Ovation

However, climbing in reveals the first notable difference. Pipers are relatively wide, Mooneys aren't; Mooney pilots just accept some shoulder rubbing is inevitable. While leg space in the front is considerable – to the point that shorter pilots can struggle to reach the pedals – it's not so in the back. If you're tall, you'll be sitting sideways, as in the back of a Porsche 911. It's not uncomfortable, but again, it's one price for the aircraft's high performance. A critic at Wolverhampton Airport remarked disparagingly, 'ah yes, Mooneys. They got the speed by doing away with the cockpit.' Harsh, but not entirely wrong. That said, once strapped in, there's an immediate sense of sporty purpose. The dash is wonderfully logical, and it's a simple matter to proceed with the usual checks up to the starting procedure.

Starting a Mooney is partly checklist and partly art. There's no obvious reason for this. One 180bhp Lycoming 360 would, you'd imagine, be like any other Lycoming 360. Not so. Mooney owners spend hours discussing nuances of starting without flooding or flattening the battery. Hot starts are a further volume for technical debate. I once watched a pilot with 40 years and over 15,000 hours' experience squandering all the volts in an M20J at Filton. The un-injected M20C is less fussy, but carelessness can still result in jump leads, especially with a hot engine.

Once taxiing, the main thing is to watch your speed. The suspension has a tendency to create a bouncing motion on rough taxiways and grass. This causes cautious pilots to inch along at a snail's pace, for fear that more spirited progress could provoke a prop strike.

After the power checks, there's a feeling of anticipation. You sense you're about to unleash a sports machine down the asphalt. This sense is generated by a combination of the ample sounds of the engine and the squatness of the aircraft on the runway. At full power, the aircraft does not disappoint. Even with three on board, the plane races towards the 65 knot rotation speed. A small but decisive nudge on the control column tells the Mooney it's time to fly. Climb rates are good, even when close to MTOW, though on hot days there's a marked drop off, as with all aircraft. On the other hand, a solo departure with half tanks creates a

Keith Wilson

Above: low suspension squats on a pile of rubber rings but is firm and effective
Below: nosewheel gives adequate clearance but prop strikes are not unknown
Top right: the author's M20C – a balance of economy, taut handling and comfort
Right: M20C comfort is especially noticeable for those who get into the front

Keith Wilson

Keith Wilson

Keith Wilson

Above right: M20E, introduced in 1963, was an M20C with a 200hp engine
Right: 'short body' M20E provided little leg-room for the back-seat passengers

phenomenal climb rate.

As with any complex aircraft, there's quite a lot to do in the climb on a Mooney. Wheels up, throttle back, mixture leaner, flaps up, fuel pump off and all the other checks, especially engine temperatures. But none of it is a chore. This feels like a 'proper' aircraft, a league apart from worthy but basic trainers.

The cruise is where the Mooney truly excels. Almost unexpectedly it's found 100

Austin J Brown

Left: M20C panel is 'wonderfully logical, and start-up checks are simple'

knots, then 110, 120, and on it goes. This M20C settles at 140 knots in the cruise. It will stay there for hours. It's hard to believe the very same engine in a 180 Piper can't get anywhere close to this sort of speed. By contrast, should you be desperate to go faster, the Mooney will oblige. With careful management and a flagrant disregard for fuel consumption, you could just about hold 156 knots in this machine, making it one of the fastest light aircraft in the skies. Mooney cracked the secret of streamlining from the start and improved it ever since. Their last offering, the Mooney M20TN Acclaim, is capable of 237 knots, though the fuel consumption is more than twice the 8 gph the M20C requires for its 140 knot cruise speed. Incidentally, we regularly achieved no less than 163 knots in the M20J, at which speed it would be drinking at least 13 gph. On one particularly windy day, aided by a powerful tailwind en route to Duxford, we recorded a ground speed of 255mph. That's still the fastest I've ever flown in a single prop plane.

The cruise in a Mooney is where you really get a sense of the immediacy of the handling. Precise, reassuring, and totally in tune with your inputs. It's also responsive to turbulence, and tells you all about it as soon as you enter or depart a thermal, or any other kind of air disturbance. This can make passengers a little edgy – but it's safe. In one advertisement, Mooney had a crowd of people standing on the wings with the caption 'you can't break the wings off a Mooney.' Incidences of structural failure are almost unheard of.

Miles pass quickly and to extend the experience it's common to throttle back. In so doing, one experiences a miracle. At 128 knots, this particular Mooney consumes about 5 gallons per hour of fuel – comparable to the much slower Cessna 152. The cockpit may be small, but so are fuel bills. This factor contributes to a usable range in excess of 850 miles. It is this combination of speed and frugality which makes the Mooney one of the most impressive sports tourers in light aircraft. With oxygen, these planes are also capable of touching 18,000 feet, where, of course, the speed is further enhanced. Even at 10,000 feet, you get a sense of absolute dedication to distance. This is a practical continent crosser. It's no coincidence that one celebrated collaboration was between Mooney and Porsche. Both firms recognised the similarities in their products – and their customers.

And so, 33 minutes after leaving Sleap's circuit, we're overhead Leicester at 2000 feet on the QFE. The trick now is to keep tabs on three things: rate of descent, speed and engine temp. It's easy to accelerate towards Vne, which also risks shock cooling the block. 800fpm is a good maximum descent rate. Good engine management in advance of the overhead is a prudent drama-reducing measure too.

The next thing to watch is other circuit traffic. It's tremendously easy to catch up with others, and you have to keep a watchful eye for anyone who might not have the benefit of those extra knots. Later Mooneys have airbrakes, simply because they're so hard to slow down.

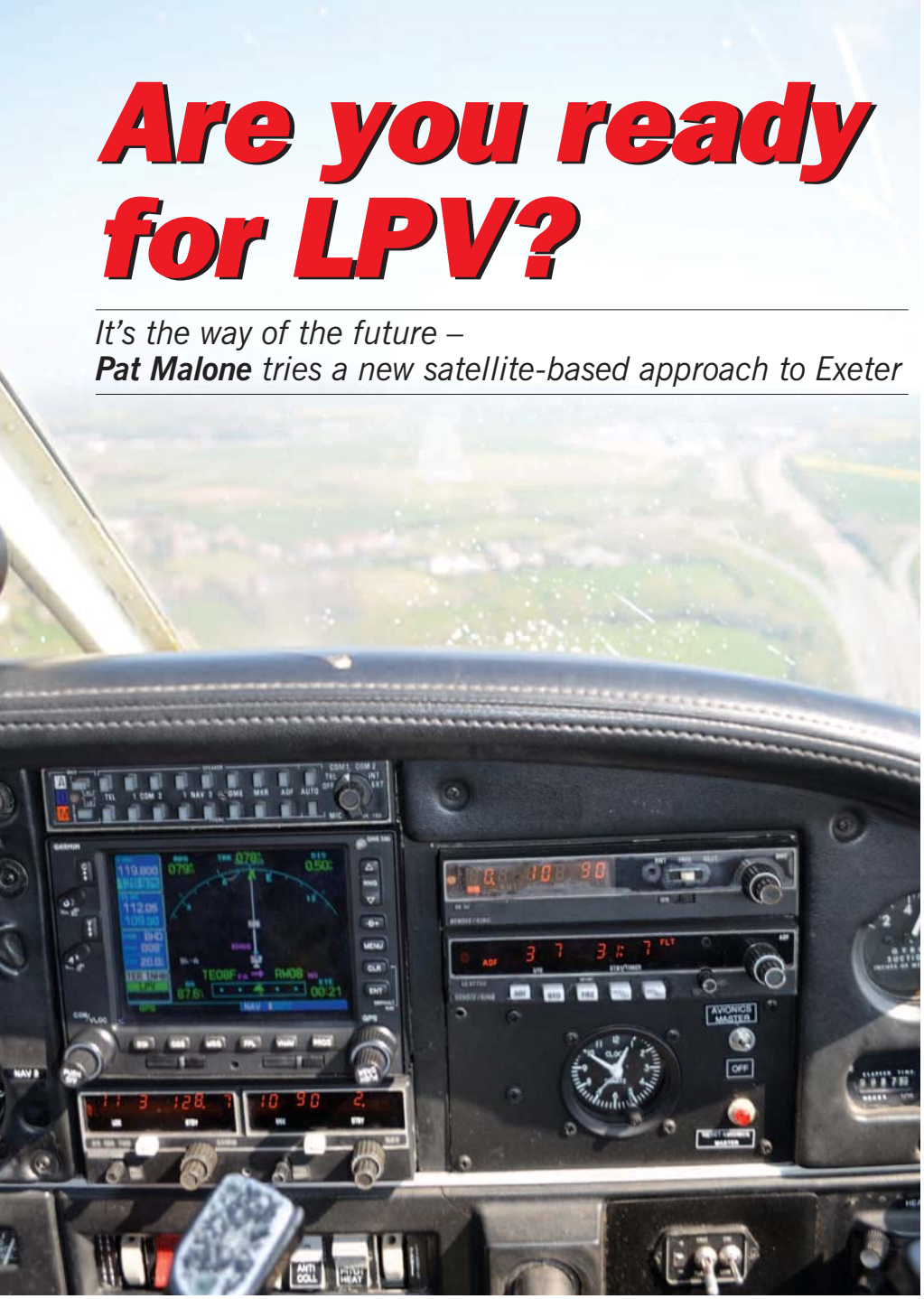
And so we're on final approach – the test of all that folklore about Mooneys and landings. The crucial thing is speed. I was once in a Mooney which came over the threshold at the Isle of Man's international airport 30 knots too fast. 1,800 metres of runway were insufficient to enable a landing, and an embarrassing go-round ensued. 70 knots on approach and 61 knots at threshold is vital. And then the thing to do is… hold off. Keep the nose up until the aircraft gently lands itself. Never force the front wheel down. It's low ground clearance risks a prop strike, and an £18k bill. Today's landing turns out well. There's enormous satisfaction in landing a Mooney like that.

Mooneys aren't the cheapest. They're tricky to hot start, and you have to respect them in the round out. But they're not sneaky. They don't try to catch you out. And their crisp, purposeful handling is the result of decades of development. Depending on your pocket, you can go old, or you can splash out on the newer stuff, which will set you apart from the crowd… and from your bank balance. What's for sure is that Mooney owners are dedicated and 'get it' about this type of aircraft. They're neither acrobats nor circuit bashers. They'll do basic flying, but they prefer to tour in style – and for that pleasure, they're willing to pay the difference. ■

Right: Mooney M20C 'Ranger' production ran from 1962 to 1978

Are you ready for LPV?

It's the way of the future –
***Pat Malone** tries a new satellite-based approach to Exeter*



LPV approaches, which use GPS for vertical as well as horizontal guidance, are on the verge of being established at a number of British airfields, and some should be operational by the end of the year. Using systems on board the aircraft and with no ILS-type ground infrastructure, LPV approaches could theoretically give Category 1 ILS performance at remote and poorly-equipped landing grounds, while even more accurate approaches are being worked on. Unfortunately, approval costs may rule them out for smaller airfields.

One of the first to be established is at Exeter (EGTE), where LPV approaches have been proven and accepted by the CAA's Safety and Regulation Group. The airport had hoped to have LPV promulgated in the May AIP, but pressure of work at the CAA means it will more likely be September. Bristol is still hoping for May, while Southend also has an application pending. Belfast, Stansted and Glasgow are also in the queue, as are eight Scottish airfields.

During the flight validation programme at Exeter I was invited along as an observer and flew an approach to 200 feet using only the GPS. The system is simplicity itself to use; anyone who can fly an ILS will slip into LPV without drama. There are a few different checks, but LPV means following the same needles in the same way – and if anything they tend to be more stable than on an ILS.

LPV – Localizer Performance with Vertical Guidance – is a 3D (the new nomenclature) approach using a GPS unit modified to receive a WAAS signal to improve accuracy. WAAS, the Wide Area Augmentation System, is available only in America, but Europe has established a similar network and for convenience it might as well be called WAAS; in fact its European name is Egnos, the European Geostationary Navigation Overlay Service. It is fully compatible with the American system, and with networks being established by India, China and Japan. In Europe, it uses a network of 44 ground stations – a couple of them in Africa and the Americas – to improve the accuracy of the GPS signal to plus or minus 25 feet more than 95 percent of the time, a level of accuracy deemed adequate for the vertical component of an instrument approach. In practice, accuracy tends to be within three or four feet most of the time.

I flew with Richard Bristowe, Head of Training at Exeter-based Aviation South West, in one of his company's PA-28s with a WAAS-enabled Garmin 530. Richard has

Left: Exeter's 08 runway appears in the right place at the right time
Below: The Garmin 530 in Richard's PA-28 runs through its self-checklist

Left: Selecting the RNAV approach to runway 08 at Exeter
Left centre: the Garmin brings up the waypoints on our circuit to land
Bottom left: map shows our track – outbound to SISRI, inbound via TE081
Above: Aviation South West's Head of Training Richard Bristowe

been one of the driving forces behind the Exeter LPV approval, having joined with the airport to get access to some European funding designed to encourage the spread of RNAV and LPV approaches. The process has cost €36,000, and under its 'Accepta' programme the EU has picked up half the tab.

In terms of on-board equipment, Richard says that upgrading a Garmin 430 or 530 should cost minor-mod approval money of around €800, although for some aircraft types WAAS-enablement currently requires major mod approval, with the associated open-ended bill. The cost of the actual installation also varies hugely from box to box and type to type. The first costly hurdle Exeter had to face was the CAA's insistence that the airport's approaches be resurveyed at a cost of many thousands of pounds. Richard says: "We thought that this was unnecessary and researched the American experience to get some ammunition to back our case. What we found was the opposite… in America all the problems they have experienced have been caused by errors in legacy surveys. So we came round to the view that a resurvey was essential."

Richard then had to have a one-off chip made, including the proposed data for Exeter, to enable them to prove the approaches. That costs $5,000 for the chip, plus $1,500 for each approach – there are two approaches at Exeter. "We were able to co-ordinate with Bristol and Southend on this, and were thus able to spread the $5,000 over three airports," Richard says. "But each airport had to pay for its own approaches."

They then conducted a series of flights with missed approaches, to generate enough data to satisfy the CAA's Safety and

Airspace Regulation Group. On each flight the aircraft carried two dataloggers and an ADS-B transponder. A couple of approaches were made down to 50 feet to ensure that the visual clues (PAPIs, runway markings) continued to align exactly with the RNAV display. Richard says: "The safety case is now with SARG and we had hoped to get it published in the AIP in May, but the CAA had too much on its plate and we're now hoping for a September publication."

There are a few additional checks to be made before you commence an LPV approach. You need to check the interconnection with the HSI and RMI. You'd also have to know that your datacard was up to date, because approaches change all the time. Input the airport code EGTE into the Garmin and activate…

We shot an approach to Exeter's runway 08. Taking off to the east, we turned and watched the Garmin 530 count down the

Above: a satisfied Richard Bristowe after another successful RNAV approach
Top right: Garmin 530 shows the suggested turn arc to get onto the next leg
Right: approaching TE081 the Garmin again puts up an arc for the turn
Botom right: the green LPV flag at lower left comes up with 2nm to run to the final approach fix

miles to SISRI, the initial approach fix west of the airfield at 3,400 feet. Using the groundspeed and required course change – an acute angle of some 100 degrees for us – the Garmin worked out the best arc of turn at the approach fix, presenting it as a dotted curve on the screen. That put us on a track of 170 degrees for TE081, the intermediate fix at 2,300 feet. Once again the arc cued us for the turn, then at TE08F, the final approach fix, we picked up the 'glideslope' at 2,200 feet and followed the needles down to the threshold. The indications remained absolutely rock solid all the way down. At 2nm before the final approach fix a green 'LPV' flag came up on the screen; if it hadn't appeared we were primed to go round. All the way in, there was nothing to suggest we weren't on an ILS. And there was no changing of altimeter settings – barometric pressure doesn't figure in the equation, except as a back-up if you want

it. A very impressive performance.

LPV approaches are going to come, and soon. The Americans already have more than 2,000 of them, many having minimums of 200 feet and half a mile visibility. The French have been taking out ILSs in favour of LPV. At major airports, they represent a back-up for an ILS that might be vulnerable, say, to power cuts. NATS is supporting LPV adoption – in fact it's keen on everyone getting into PRNAV in order to reduce separation. The airlines like it, too. In San Sebastian, Spain, they reckon an LPV approach saves them seven minutes over an ILS approach.

Potential problems for smaller airfields include the cost, both of establishing the approaches and equipping aircraft to use them. The CAA will insist on a survey, and it's hard to argue against it.

Then there are approvals and other fees, chips and proving costs, but there are no maintenance costs thereafter; you don't have to recalibrate it every few months like an ILS.

Establishing such approaches in the open FIR also poses problems. You'll have IFR traffic on an approach mixing it with VFR traffic passing by, and that's something that needs work. ■

Letters to the Editor

Simple, really

Sir,

A few points to clarify George Done's comments regarding renewal of his IMCR/IR(R) as described in the April edition of *General Aviation*:

- The problem arose because he'd converted his licence to a Part-FCL PPL(A) *before* renewing his IMCR. Thus the Rating appeared on the reverse of his licence as 'expired', meaning that his Examiner is not permitted to sign for the renewal.
- The additional administrative burden and rather disproportionate fee is only a problem under such circumstances, because the Authority has to be given the required proof by the Examiner (not 'Instructor', George!) and will then need to re-issue the licence with the now valid IR(R) transferred to the front.
- If there's a lapsed IR(R) on the *front* of a Part-FCL licence, it may still be renewed by an Examiner in the field, but not if it's lapsed by more than 3 years (although we're trying to get that extended).
- There is no need to hold a UK PPL as well, unless you're planning to fly something which doesn't have an EASA Type Rating. So if you want to fly, say, a Piper Cub and a Piper Cherokee, then a Part-FCL PPL with SEP Class Rating is all you need, because the CAA has agreed to permit non-EASA aircraft to be flown using EASA licences.

And, as George now accepts, if you want to avoid unnecessary expense, please do RTFM*!!

**Read This Fine Magazine!!*

Regards,

Nick Wilcock

Out of control

Sir,

With all the hard work AOPA has been doing to secure GA access to airspace, I find the advertisement by Hayward/Gasco on Page 15 of *General Aviation* (April 2014) rather upsetting.

'An infringement happened every 11 hours in UK airspace in 2012', it says. 'Don't be part of the statistic. A polite notice to all pilots: Keep out of controlled airspace'.

May I suggest that controlled airspace is to be accessed under clearance, and not be kept out of?

I feel the advertisement and the decision to publish it unfortunately sends the wrong message to pilots.

James Chan

Matthew Day of Hayward Aviation Ltd says:

The purpose of this safety awareness poster was to draw attention to airspace infringements which cause disruption to airspace movement and, potentially, risk aircraft in flight. We recognise that many pilots fly in controlled airspace where permission etc has been obtained, which are not, therefore, infringements. We are happy to change the emphasis to promote greater awareness of controlled airspace rather than exclusion from these areas.

Strasser's lifesaver

Sir,

Last Thursday 3rd April I was returning from Kirkbride to my farm strip in Northamptonshire when I became concerned that the cloud base was becoming 8 octas and reducing to around 300 ft on my planned route ahead.

On talking to Manchester they confirmed this was the case and after talking to both Waddington and Doncaster we agree that I should divert to the latter via a radar vector as a precaution to their ILS.

There seemed to be little chance of improvement in the near future so I hired a car for the 90-mile journey home.

Once the Saharan dust had been cleared by Saturday I returned to Doncaster to collect the aircraft and fly back.

I mentioned to the very helpful handling agent representative that I was a member of AOPA and I had noted that Doncaster had subscribed to the Strasser Scheme. This came as something of surprise to him as he knew nothing about it. He kindly contacted the aerodrome management who generously waived the landing fee and any parking charges. In addition the handling agent, Weston, reduced their charge by 50% in view of my emergency diversion so saving me in excess of £100 – an excellent result.

Airfields that have subscribed to this splendid scheme will doubtless have saved lives hitherto; and will continue to do so as it takes the fear of the cost, and possible embarrassment, of requesting a diversion to a large facility in such circumstances. The "get home-itis" factor can safely be eradicated.

Thanks to AOPA and Mr Strasser for his efforts on all our behalves.

Roger Kimbell

Charles Strasser says:

I am pleased that you are one of many pilots who have benefited from the AOPA 'Strasser Scheme' now operated by 205 UK civil and military airports and airfields, in deciding to make a timely precautionary weather diversion without having to worry about the potential cost, when making that decision in the air. It is of course not only the financial saving but the potential saving of lives which led the CAA to make that recommendation, many years ago, in their CAP CAP 667 9.2(c). There are unfortunately still six UK airfields, Bournemouth, Cardiff, Leeds/Bradford, London-Luton, Lydd and Manchester, who have so far refused to join the scheme despite many efforts on my part to get them to do so. Unfortunately also, many handling agents do not recognise the importance of the Strasser Scheme and it was therefore pleasing to see that Weston at Doncaster also helped by at least halving their usual charge. ■

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Briefings

Vauxhall backs Biggles biplane

Vauxhall Motors, along with Rolls-Royce one of only two surviving British manufacturers to supply vehicles for military use during World War 1, is supporting the 'Biggles Biplane' BE-2, an authentic flying replica of the world's first purpose-designed military aeroplane, as it commemorates the centenary of the outbreak of the Great War.

A Vauxhall Zafira Tourer carrying a special livery portraying the 1914 two-seat observation biplane and a 1914 Vauxhall Type D Army staff car is accompanying the aircraft at events across the UK through 2014.

The BE-2 aircraft will cross the Channel to commemorate the first deployment of the Royal Flying Corps to France in August 1914 and will land at Amiens in France on 13th August 2014, exactly one hundred years to the day from the arrival of the first aeroplanes accompanying the British Expeditionary Force. The aircraft will take a leading role in the ceremonies organised by the Western Front Association and the British and French governments, including flypasts over Great War trenches and over a special 'drumhead service' at the Arras military war cemetery.

Denis Chick, Vauxhall's Director of Communications, says: "Vauxhall is proud to support this wonderful recreation of a very important, historic aeroplane. Our company's vehicles have played a pivotal role in both wars, with the D-Type staff car in the Great War and the Churchill Tank in World War Two, so it's fitting that we should bring these vehicles together for such an important commemoration." ■

Doug Fisher Canadian Warplane Heritage Museum

Lancaster pair schedule

The Canadian Warplane Heritage and Battle of Britain Memorial Flight Lancasters will appear together at a number of air shows this summer. Confirmed engagements include Eastbourne International Air Show from August 14 to 17, Combined Ops show on August 16 and 17, Sywell Great War air show on August 17, Clacton air show on August 21, Dunsfold Wings & Wheels on August 23 and 24, Dawlish air show on August 23, Little Gransden air show on August 24, Bournemouth air festival on August 30 and 31, and Shoreham air show on the same dates. Check nearer the time exactly which of these dates the Lancasters will appear on.

It is a virtual certainty that the sight of two Lancasters flying together will not be seen again after this year. Canadian Warplane Heritage Museum President and CEO Sqn Ldr (Ret.) David G. Rohrer C.D, who is a current Lancaster pilot, said: "This Trans-Atlantic crossing and visit to the BBMF and England is a once in a lifetime event which will not happen again. A rare window of opportunity was identified to bring the last two flying Lancasters in the world together as a special salute to all the veterans of Bomber Command, many of whom are in their late 80s or older now."

Dunsfold will particularly welcome the Canadian Lancaster as it was built by the Canadians for the Canadians. The airfield began life on May 11, 1942 when the First Canadian Army – mainly the 2nd Battalion Royal Canadian Engineers – began construction of an emergency airfield. After just 20 weeks the site was officially handed over to the Royal Canadian Air Force on 16 October 1942. During the War the aerodrome was home to the RCAF 400, 414 and 430 Squadrons. Sqn Ldr Rohrer says: "We are delighted to be displaying at Wings & Wheels and on an Aerodrome which has such strong links with the Royal Canadian Air Force."

Wings & Wheels event director Jamie McAllister says: "This is going to be one of only a handful of events across the UK where it will be possible to watch both Lancasters display, and we are absolutely thrilled. We are very proud of Dunsfold's Canadian heritage and to be able to commemorate it in such an iconic and historic way is something we can't wait to share with our visitors."

New F1 air race planned

The success of Red Bull air racing seems to have prompted others to enter the field. Three major sponsors have confirmed their partnerships with the new formula one class air racing series, Air Race F1, which will launch on June 1 in Spain. Burn Energy Drink, sports betting company Sportium, and insurance giant AIG are among the sponsors to join forces with Air Race F1 to develop the new international series of air races.

Burn, a Coca-Cola subsidary, participates extensively in motor sports and extreme sports, playing a major role in the development of these sports and athletes through its highly active community involvement. Sportium is a joint venture between Spanish and British industry leaders Cirsa and The inaugural Air Race F1 event will take place at Lleida-Alguaire Airport in Spain, at the beginning of what is intended to be an annual series of international events. Hosting partners include the Government of Catalunya, the City of Lleida, the airport, and car manufacturer SEAT. Pilots include England's Trevor Jarvis and Jeremy Cooke and Scotland's Des Hart.

Cambridge gets ATO approval

Cambridge Aero Club is among the earliest successful applicants for EASA Approved Training Organisation status and has received its ATO certificate from the CAA well ahead of the 2015 deadline. Cambridge, owned by Marshalls, is one of the oldest clubs in the country, having been founded in 1929. Aero Club managing director Terry Holloway says: "We are delighted to have obtained a very early certificate of approval. This is a very important milestone for the Cambridge Aero Club and we look forward to continuing to provide exceptionally high quality flying instruction in the years ahead."

Challenge and opportunity

How can young people get into aviation?
***Ian Grosz** explains the scholarship scheme* Take Off

Thinking about all the opportunities I had had in aviation, I reflected on the fact that they had given me real direction and purpose that I was sure would have been lacking, otherwise, as a teenager and young man. I had been in the Air Cadets and had received a flying scholarship from the Air League Educational Trust and eventually, a Cadet Sponsorship from Bristow Helicopters, giving me a rewarding career in rotary aviation.

I was acutely aware, however, how much backing and support I had received from my family and friends and how much aspiration, as well as opportunity, plays its role in seeing a future for yourself as a young person. It seemed to me, that, although organisations such as the Air Cadets and the Air League are wholly inclusive, offering the opportunity to become involved in aviation to all, there were many young people who would never even be aware of these fantastic opportunities – never even dream that it was something they could do. Quasi-military organisations such as the cadets are also not for everyone.

I wanted to do something to try to address this potential gap in providing such opportunities and encourage more young people into aviation, directly, from within the schools and particularly those who might lack financial backing or be struggling to find direction at such a formative stage in their lives. Learning to fly at a young age, I strongly believe, has an enormous, positive impact on self-belief and aspiration, regardless of the direction eventually taken and it was this I wanted to promote most of all.

Early in 2012 I approached the Scottish Aero Club, the oldest flying club in Scotland and well placed in Perth, with excellent facilities. They had acquired a new Eurostar three-axis microlight and wanted to increase its utilisation. Like many other flying clubs in the UK, it had an ageing membership and they were keen to bring a new generation into the club. They immediately saw the benefit of what I proposed, which was to set up a charity to raise funds in order to offer ten hour flying scholarships to young people in the area and potentially, eventually further afield, with the SAC providing the aircraft and instructors. I was teamed up with Howard Duthie, a retired teacher and keen microlight pilot who serves on the SAC committee. Howard was an ideal person to help get the scheme up and running and agreed to become a trustee, along with Graeme Hammond, a former Chief Press Officer at the Ministry of Defence, who also agreed to become a trustee and deal with banking etc until we were established. We set about getting the charity formed and registered and the hard work commenced.

By January 2013 we were officially registered in Scotland and had the backing of Perth and Kinross Education Authority, who agreed to fund four scholarship places from four Perth City Schools. We set an ambitious target of raising funds for an additional four and after visiting the schools the council had earmarked us to work with, the year was spent appealing for funding, dealing with a host of regulatory and administrative headaches and selecting our first eight scholarship winners.

It was a difficult and challenging year, with many obstacles to overcome, but with eventual backing from Vector Aerospace and Bond Offshore Helicopters, as well as donations from club members and the public, we managed to get the funding together and the flying training began, with the Scottish Microlight Flight Centre in the SAC Eurostar. To date, four scholarship winners have completed their course to solo standard, three are still undergoing their course, with only one student who was unable to commit to the programme due to personal circumstances.

The experience has had a big impact on all our winners, many wishing to pursue flying further and all, I think, being surprised and encouraged to find what they are capable of. One young lady came to us with a fear of heights and has, to date, completed over five hours of her course, flying very well and set to achieve solo standard well within the ten hours training. Another young man has gone on to college to study Aeronautical Engineering and three others are set on continuing their training to gain an NPPL, something we'd like to support, given further funding.

Although certainly a difficult enterprise to set up, its benefits to the young people is plain to see and its future knock on effects to GA and the aviation industry as a whole, as well as the local community, can only be positive. It has been a very worthwhile

Left: the Eurostar is a popular Czech-built three-axis microlight with a Rotax engine Below: new pilot Kari Paul taxis the Eurostar towards the runway at Perth

Above left: Scholarship recipient Kari Paul with instructor Bill Davis and the Eurostar This photo: Perth Aerodrome at Scone is one of Britain's most picturesque, with a stunning mountain backdrop

scheme to be involved with and we are now into a second year of operation to repeat the programme, learning from and building on what we have achieved so far. We are by no means alone in offering such opportunities and other should be supported.

As far as Take Off is concerned, we hope to expand the geographical area of our operations this year and continue to support the achievements and ambitions of the young people involved with our scholarship scheme. To help us do that, we, in turn, need the support of the whole pilot and aviation community. Everyone, at some point, gets a helping hand and we ask that you help us offer that to the young people we work with, by supporting us in whichever way you can. All support is very gratefully received. ■

Above: Kari Paul straps in to the Eurostar for a lesson

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Ask the Captain

Can Claroxan Advanced help maintain healthy vision?

Roger Johnson has enjoyed a 25-year career as a captain with American Airlines. He has logged over 22,000 hours of flight time and is type rated in the B-757 and B-767 airframes. Roger is also an AOPA member. The 57-year-old California resident has been using **Claroxan Advanced™** — the once daily tablet for healthy eyes — for five years, and is thrilled its benefits.

Pacific Health recently spoke with Roger, and he shared his success using **Claroxan Advanced**.

Aviation Medical Exams

I started using **Claroxan Advanced** *for peace of mind. I take my aviation medical exam every six months to renew my first class medical and continue to receive 6/6 on the vision portion, which astounds my examiner. He asks me how I do it and I say, "In addition to a healthy lifestyle, I take* **Claroxan Advanced** *daily."*

On the Job

I fly the LAX – HNL (or surrounding islands) – LAX route. During the entire flight out to Hawaii, I endure "perpetual sunset," which can be quite draining on the eyes.

Claroxan Advanced *helps when I return to LAX. I usually arrive right before sunrise, so my vision has to be keen. There is heavy traffic coming into and out of LAX. So, it is important to be able to pick up visual traffic to orient myself for traffic pattern entry.*

One morning, returning to LAX after the long flight from HNL, I was cleared to land on runway 7L. On final approach, I spotted an aircraft on the runway. It had been cleared for take off, but hadn't started moving yet. As an airline pilot, you always look for options. I could go around, which would cost the airline unnecessary gas money and cause an unnecessary delay. Or, I could execute a sidestep maneuver and land on 7R.

I advised the tower of the situation and asked if we could side-step and land on 7R. The controller okayed my suggestion and we landed safely and earlier than anticipated. This move saved 1,000 pounds of fuel and saved the passengers any undue delays. I have to say that taking **Claroxan Advanced** *maintained my vision to the point that I could pick up that aircraft on the runway very quickly, giving me more time to weigh my options and make a sound decision.*

Can **Claroxan Advanced** *help maintain healthy vision? Yes, the formula is very beneficial for the eyes. If you rely on your vision to succeed, you should try* **Claroxan Advanced.**

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Serving Size: 1 Tablet
Servings Per Container 30

Amount Per Serving		% Daily Value
Vitamin C (Ascorbic Acid)	60 mg	100%
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Zinc (Zinc Oxide)	15 mg	100%
Copper (Cupric Oxide)	2 mg	100%
Vitamin B2 (Riboflavin)	1.7 mg	100%
Selenium (L-Selenomethionine)	70 mcg	100%
Grape Seed Extract (95% Proanthocyanidins)	211 mg	†
Ginkgo Biloba Leaf Extract	120 mg	†
Lutein (200 mg of 5% Lutein Extract)	10 mg	†
Zeaxanthin (100 mg of 2% Zeazanthin Extract)	2 mg	†

† Daily Value Not Established

The **Claroxan** brand has been popular with pilots and shooters in the United States for over 10 years. Airline pilots use it to maintain healthy eyesight so they can continue passing the vision portion of the aviation medical exam.

Claroxan Advanced is also used as a way to maintain shooting performance, precision and accuracy for law enforcement, competitive shooters and big game hunting guides.

This year Pacific Health is slowly introducing a new **Claroxan Advanced** formula in test markets throughout the UK and EU. The **Claroxan Advanced** formula is designed to be beneficial for the eyes and for the maintenance of normal vision.

The formula has been modified for EU distribution in accordance with the EFSA register of health and nutrition claims guidelines.

If you're a pilot and you count on your vision to succeed then you should try **Claroxan Advanced**.

For EU customers the company is currently running a promotion where you can try a 90 day trial for $117.00 USD - approximately £73 GBP - and you'll receive a free bottle of Optimis7 eye drops which relieve redness and irritation, a good product to have when dealing with dry air in the cockpit. Go to **www.Claroxan.com/discount** to order.

To order the **Claroxan Advanced** formula call toll–free **0808.134.9880**. Customer service is open 13:00p-1:00a GMT. Pacific Health is shipping from the US during the initial EU launch. You can also order online at **www.Claroxan.com/discount**. Shipments usually arrive in about 2 weeks.

Home from Greece in a day

With Zeus on your side, anything is possible –
***Stratis Scleparis** reports on a one-day epic from Thessaloniki to Blackbushe*

Above: Fancy a day trip? The Commander's route from Thessaloniki to Blackbushe
Top: we flew over snow-covered mountains almost all the way to the German border
Right: Souvlaki, a Greek favourite

We were half an hour out of Thessaloniki at 8,500 feet over the mountains of northern Greece when the Commander's door slipped open, the rush of noise and the cold blast momentarily overwhelming me. Try as I might, I couldn't get it shut again… but returning to my take-off point was going to defeat my purpose in getting home from Greece in one day in a single-engine piston aircraft. What to do?

I had flown by Ryanair from Stansted to Thessaloniki on March 3, arriving at 21:15 in rain and wind. George, the owner of G-OMUM, was waiting for me and we went out for a light dinner – my favourite, *souvlaki*. Most tavernas and bars there have free wi-fi, so while we munched our kebabs we checked the weather for the next day. Fog was forecast for Thessaloniki (LGTS) in the morning, low-level mist and cloud for our first destination in Hungary. We discussed the alternates and fuel endurance. Any delays or reroutes due to weather (not to mention uncooperative doors) would make it difficult to reach Blackbushe before closing time at 18:00.

Then it was back to the hotel for more detailed trip discussions. This was to be my 16th trip between Greece and the UK in one direction or the other, always in Commanders. I try to land at different aerodromes every time, and that makes flight planning more interesting. The temptation to do the whole trip in a day was great. But I was concerned about the weather in Hungary and Austria, and I hadn't flown this particular Commander 114 for two and a half years. I do have more than 1,200 hours on type and I had planned this trip in great detail, *but this was the first time I was going to do this flight.*

As George and I continued our discussion of the trip ahead I glanced at the dark sea outside the hotel lobby window. What an amazing view, and what

a pleasure it was to be there. Greece, on a winter's night, with empty streets and quiet roads… the hotel was more or less empty except for an Olympic Air cabin crew that we saw in the lobby. *Ah, this was the right hotel for flight crews*, I thought...

I sent an email with the General Aviation Report to the UK authorities, and another one to the German police at our final stop in Germany – Zweibrücken (EDRZ). 24 hour PNR was required at Zweibrücken, but they had already accepted that 12 was the best I could do for a VFR flight across Europe. By the time I went to bed it was very late. I didn't sleep much. Thoughts of fuel management and bad weather scenarios were going through my mind...

Up at 04:30. No breakfast available at that ungodly hour, but the obliging hotel staff brought us coffee and some cakes. After checking the weather and admiring the starry sky and the black sea outside we drove to Thessaloniki airport. The Airport

Above: there was little to eat on board, but no shortage of coffee
Right: we were often VFR on top with solid cloud beneath us
Below: Nikola Tesla power station on the River Sava supplies half of Sebia's energy

Authority girl checked my licence and medical... the handler did a great job, rushing us through security checks and the paperwork, and we found ourselves outside the Thessaloniki Aero Club hangar with G-OMUM there, in the dark. The apron was wet. We did the pre-flight checks with a torch. I had to remind myself of what was where as I hadn't flown this plane since I ferried it to Greece from Blackbushe. Life is full of surprises, it would seem.

There were stars in the sky and Venus was shining bright. I had spent my military service near Thessaloniki, and I remembered the nights on guard duties gazing at the fantastic sky using a Patrick Moore mini-guide. We departed at sunrise, under day VFR, with a stunning view of the sea and the high mountains to the north, west and east.

We climbed to 8,500 feet. To the southwest, Mount Olympus, of Greek gods' fame, was glittering with its top snow-capped in the morning sun. In front of us, more high mountains and snow lying towards the Former Yugoslavian Republic of Macedonia. To our right, more snow and high mountains, and Bulgaria. George kept taking pictures with his iPhone.

Then 25 minutes into the flight, at 8,500 feet, just as I was getting ready to change frequency for the Skopje FIR, my door popped open! Half-open in fact. *"Oh no! All this noise and the cold!"* Had I not slammed it shut well enough? Time-wise, returning to Thessaloniki to close it meant we would lose our race against weather and sunset times. I handed control to George with the instruction to slow us down to 70 kts. I managed to open the door completely and tried to shut it. It was hard and it was noisy – and was that the sound of a *gear up/slow speed* warning bell I could hear embedded in all this racket? However much I struggled, I couldn't shut the door. But George had apparently been pumping iron, and he reached over behind my seat and pulled the door, while I secured it. What a relief! But we had lost some altitude... The door did not trouble us anymore. I made a mental note to get some stronger biceps.

After Macedonia we progressed into Serbia. Like all our ATC hand-overs throughout the journey, it was smooth and professional. We were still at 8,500 ft and VFR on top, now with solid cloud below. We continued into Hungary, descended and checked our destination weather; it was marginal but improving. We passed our first alternate, Pecs (LHPP), which I knew well from previous flights, and it was in VMC. Our second alternate was VFR in light haze. So I pushed on in scattered low cloud – and our destination

Cloud filled valleys and snow-topped mountains on the nose
Above: brief glimpses of the ground in otherwise solid IMC in the hills

Fertőszentmiklós (LHFM) was there, on the nose... the first leg had been 520 nm and it had taken 3hrs 40min.

I had spent ages practicing how to pronounce Fertőszentmiklós (which means St. Michael's lake) but then I noticed it was called Meidl airport. Discussions of the weather with the ATCO followed. He was a former Hungarian Air force pilot, MiG jets and helis, Soviet bloc. Helpful chap. We went through TAFs and weather radar. It didn't look good at all. To the north, Vienna was in mist, low cloud and poor visibility, with the Alps to the left and the Vienna TMA above. I went for a coffee and a chat with the girls in pseudo German-Hungarian. George explained to them in pseudo Hungarian-Greek the financial predicament Greece was in. Back to the tower and the ATCO, in half-English but mainly German I think, showed me again the cloud moving slowly - *langsam* - to the east and showed me a low-level VFR route to the west at below 2,000 feet to avoid the TMA. He modified my flight plan to reflect the route and alert Vienna ATC. I had flown in the Vienna region many times before, but still I waited for the weather to improve. *Langsam*.

We departed, enjoyed a low-level tour of the south and west of Vienna and eventually out-climbed the clag to quite good conditions. The Alps were on our left and the Danube on our right. Great views. We flew all the way to the German-French border at Zweibrücken without any problems. The second leg was 393 nm and 2hr 49min.

Huge runway, friendly and professional staff. The police had been waiting for passport control. We had arrived exactly as planned and notified. I then realised that I had not seen the Rhine as we overflew it. What a disappointment! I had wanted to admire this mythical river from above. It was Wagner's *Ring Cycle* territory, and linked to all that divine music. I told the German Ops guys that I wanted to fly back to see the Rhine. They almost believed me. They showed me on the map where it was. I knew exactly where it was and where the Nibelungen had taken the Ring. I made the pledge to myself to go back there soon. What an excuse for my next flight to Germany.

They made us coffee and gave us commemorative pens. I played "Siegfried's journey on the Rhine" to them from my Blackberry. It was surreal. Two chaps in high-vis jackets came to admire the Commander. They made an estimate on how much it was worth. It was an attractive proposition, but we had the last leg to do to deliver the plane to Ted.

And so we departed for the third and final leg. We routed through Luxembourg and France, transiting the Luxembourg zone. Direct routes everywhere, empty skies and courteous ATC. We crossed La Manche and we were almost there. Three aircraft in the Blackbushe circuit and we had to go around once, but landed at 17:33. 344 nm and 2hr 55min for this leg – and G-OMUM had returned home.

The Police and UK Border Agency approached us, together with Ted, the new owner, who was smiling. We were only three minutes late from the estimated ETA that I had sent them the night before. Zeus had been on our side.

It was great to bring G-OMUM back, and to park her next to where she'd been parked for years. How strange that she was back at Blackbushe, and that I'd had the privilege of flying her out to Greece and now back again. Ted and George exchanged their "vows". Then my wife collected us and drove home.

We had only eaten a couple of tiny muesli bars all day. I felt a little light and my body still had the sensation of flying. I had stayed only nine hours in Greece, the shortest stay in my life. And I had spent nine hours flying on a trip from Greece to Blackbushe, in a single engine piston aircraft, *in one day*. The 'one day' bit was a first for me. I loved it. George had to fly back to Thessaloniki on easyJet at 06:50 next morning. I drove him to Gatwick in the middle of the night. My wife came along and drove us back, lest I fell asleep at the wheel. Don't we just love flying? ■

Above: last stop in Germany, at Zwiebrücken close to the French border
Right: journey's end – George (left) and Stratis on the ground at Blackbushe

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‘When in Spain, Spanish fly!’

A microlight flight of 3,363 miles from London to Gibraltar and back in eight days described by ***Deepak Mahajan***

“C’mon Jim, faster.” I said, “it’s going to be dark soon and we don’t have a landing light.” We descended, built up the speed to 125 knots and called the other four microlights in the gaggle behind us to hurry up as the light was fading fast. Landing at twilight is not easy – add the complication of no runway lights, no radio on the ground and the possibility of being locked out of our pre-booked rooms due to tardy arrival was not a very attractive proposition.

We skimmed low over the ridges to maintain speed; our ability to see further was reduced. However the trusty AvMap GPS was leading us directly to the 700 metre tarmac strip at the microlight club. We’d been delayed by a flat tyre early in the morning at Lezignan in southern France; a trip to the local supermarket to purchase a suitable foot pump and tyre repair kit (why did I leave that in the hangar?) took longer than planned. In the meantime, my friends in the gaggle had scrounged a new tube from a local pilot and fixed the problem.

The day before when we started from Damyns Hall there were three CTs and one Husky taildragger, heading for Spain and Portugal. We were joined by one more CT and an Ikarus C42 over the Channel, and we met up at Abbeville after dodging low wispy clouds. No Customs, but croissants,

Top: Cabo Sao Vicente, the south-western extremity of Europe
Above: happy campaneros route-planning at a pre-flight briefing

good hot coffee and game plan briefings got the aircraft in the air heading south over the pleasant French countryside for our lunch destination at Chateauroux Villiers, the microlight-friendly field just southwest of the main airport. Beyond Villiers the route south took us over the thickly wooded forests and tightly winding deep gorges with hydroelectric power stations on the River Dordogne. I was so busy taking pictures with my iPhone through the sliding window that I did not notice the phone cover was flapping in the 80 knot wind. I had unclipped the phone from its lanyard around my neck to get a clearer picture of the gorges. Next thing I knew the wind had whipped the phone out of my fingers and gave David and Tracy

Top left: when in Spain, Spanish fly – down below the Class C
Left: gaining height slowly in order to cross the mountains
Bottom left: Ray and Anita Osborne with their Flight Design CT
Below: Deepak pays the price of arriving late at Vera airstrip

who were in close formation behind us, cause to duck their heads in the cockpit as the dark 150 grams of phone went flying past over their plane. We cannot imagine the trouble it would have caused us all had it hit the canopy, or worse, the propeller of the CT behind us. I can now boast that I am such a good flying instructor, I can teach an iPhone to fly!

We were following our planned route from Aurillac to Rodez to Millau to see the unique viaduct designed by Norman Foster (he of the Gherkin, Duxford Museum, Bundestag fame, and a noted aviator and helicopter pilot!) We turned on a track of 190 degrees over the Midi-Pyrenees en-route to Lezignan. After the delayed start next morning due to the flat tyre, our route took us over the city of Carcassonne with its castellated walls and cathedral and ancient town centre, to climb slowly in the midday heat over the Andorra Mountains. The EGT warning lights came on and I throttled back, while asking the others to carry on and to meet up at our lunch destination of LECN, or Castellon De La Plana, on the Costa Del Azahar. A zigzag climb at lower speed, using some of my old but unforgotten hang-glider pilot knowledge of ridge soaring and thermal seeking, came in useful to clear the mountains at more than 10,000 feet. The flight into Spanish airspace was uneventful, once I realised that the EGT warnings were due to a faulty sensor and the engine was not about to fail.

I called Vera airstrip on the radio but received no response. Our ETA was 1400 local, but it was now sunset and getting dark more quickly at the 37th north parallel than it does in the UK at 52 degrees north. Jim spotted the airfield while I planned a rapid speed reduction and turned so I had the runway in sight a few seconds before touchdown. Dean and Ingrid landed behind me, followed in quick succession by Ray and Anita, Richard and Philip, and Geoff in his Husky. Dave and Tracy had to return to UK from France due to childcare arrangements.

At Vera, Jim and I tossed a coin to decide who would get to sleep on the sofa and who ended up on the bar counter! We started the next day early since I woke up when I fell off the bar. The sun came up just as quickly as it had gone down, and I noticed that the pace of life is inversely proportional to the speed of the sun going around the earth. The closer you live to the equator, the more things are done in a leisurely manner, even though the day is shorter.

A good preflight check, full tanks from pre-arranged jerry cans and we headed east from the Gulf of Vera towards Granada, in a tight formation north of the Sierra Nevada. The snow capped mountains rising to more than 12,000 feet to our left were a grand sight. We were in Andalucía! Olive groves everywhere. We flew low – "when in Spain, Spanish fly!" as my friend Diego said to me. As we neared Granada we stayed even closer to the ground, as one can fly VFR not above 1,000 feet agl to keep clear of Class C airspace of the main airport.

I had the position of Aeroveleta airclub on the AvMap and quickly spotted a tarmac runway. I knew the microlight strip was short, but this was even smaller than I had imagined. Jim circled it once before

I realised that it was a model flying strip and our destination lay about a mile and half beyond, in an olive grove, with a distinct slope which made it possible to land one way and take off the other. This airstrip was going to be the most difficult I had yet encountered; a 400 metre strip with 200 metres of compacted dirt and 200 metres of tarmac, sloping gently upwards with a large hangar and club house on the top end and olive groves to stop you immediately in case you crashed. One practice approach at 45 knots with full flaps from the wrong end to inspect it and to check the lip on the inbound threshold gave me a good understanding that only microlight aircraft with their superior power to weight ratio could mess up and still be able to climb out. We all landed safely without any go-arounds.

We walked through a street market in Granada town centre with the temperature showing 48C, cooled only by jugs of sangria and tapas. The wonderful Alhambra Palace was full of history,

Top right: land here for fresh olives – at low level over Andalucia
Right: short, rough, sloping runway? No problem
Above: Big Jim airing his clothes in a fresh French summer breeze

architecture, fountains and pools of cool fresh water flowing with no mechanical pumps. We had a real sense of achievement at having flown our microlights from England to reach southern Spain, on time, as planned, to visit this grand Moorish palace.

Next day I called up the ATC in Gibraltar and spoke to a very helpful RAF chap. He explained that we might not be able to land unless we had taken off from a customs airfield in Spain. So we arranged to make a 'low and go' at Gibraltar airport and carry on to Jerez in Spain for lunch and to refuel. I asked ATC to file a flight plan on our behalf and to inform Jerez airport that we were on our way. This would mean an internal flight within Spain, which was easy. On arriving in Gibraltar airspace we were asked to hold two miles out to sea to allow commercial jets arrive and depart. From our vantage point at 1,000 feet I could see the swirls of sand and sea being churned up at the end of the runway as the jets spooled up to full throttle with brakes on before they accelerated to take off in the lee of the Rock. ATC warned us of the rotor turbulence as he cleared us for a low and go. What a sight it was, too! We could see the traffic barrier down, holding the cars and pedestrians clear of the runway, as we flew along in formation of four, line astern, at a regal 60 knots, then climbed out over the marina packed with posh yachts.

Jerez was welcoming on the radio; we were efficiently refuelled as soon as we landed. The fun started when we went to the office to pay landing fees, which amounted to a few euros; less than the cost of the paper, the printing and the salaries paid to the admin staff to process the stuff. The lady asked me why we did not file a flight plan.

"We did, Ma'am," I said.

"We received nothing" she retorted.

"Honest Ma'am, we sent a fax from Gibraltar".

"You seriously don't call that a flight plan, do you?"

"What do you mean?"

"Let me show you what we got on the fax from Gibraltar ATC."

When I saw the fax, it said…

"4 aircraft arriving for lunch and can you arrange fuel for them please"

She wasn't pleased at all at my describing this fax as a flight plan. I made my apologies and said, "Please may I fax a plan to fly to Portimao in Portugal now?"

Once the flight plan was filled in individually for each aircraft, as they would not allow civilian aircraft to fly in formation

Puzzled looks on the cabbies faces.

"Sir, there is no hotel in town with this name."

"You must be joking."

"Really sir, we cannot recall any hotel with this name in Lisbon."

I called up the Portuguese number on my mobile phone and spoke with the hotel receptionist.

"Hi, I have booked five rooms in your hotel, the name is Mahajan."

"Ah, yes sir, how can I help? We have your booking."

"Please can you give directions to our taxi drivers to your hotel."

"All taxi drivers know how to reach the hotel. It is less than 10 minutes from the airport."

"That's what I told the cabbies, but they say there is no such hotel in town."

"Which flight did you arrive in?"

"We arrived in our own planes."

"Ah, very good." She sounded impressed. "May I speak to the taxi driver please."

Top: flying low alongside endless holiday apartments
Above: Richard and Philip flew from their field near Biggin Hill
Right: heat and houses made the approach to Cascais turbulent
Bottom right: flying School this way – sign in Spain

– a privilege reserved for military aircraft only – we went to the deserted airport lounge for a lunch of packaged sandwiches. The ATC system hardware and software in Spain is top class, but the air traffic controllers have a mindset from the middle ages. The concept of providing a service to aircraft does not exist. They CONTROL aircraft. Thus we took off and as soon as we were outside the Jerez ATZ we kept quiet and flew onwards to Portimao. ATC in Portugal were relaxed and friendly. After landing at this club airfield in the Algarve, we were treated to a fabulous seafood dinner on the beach and watched the sun go down with some more tales added to the bag.

Next morning we flew over the microlight strip at Lagos and continued along the coast towards Cabo de Sao Vicente, the south-western most point of Europe. Bits of low cumulus formed along the coastal cliffs due to the cool moist Atlantic air going up over the cliffs. Jim played with the clouds while I snapped away with my back-up phone camera – and this one was not going to leave the cockpit without permission.

We were cleared straight in at Cascais, Lisbon. The midday heat made the approach over houses and the tarmac runway very exciting; some of us floated a long way up the runway before touching down. After a quick fuel top-up and securing the aircraft we called for two taxis to take us to the hotel we had booked.

They conversed for about 20 seconds and the driver returned the phone to me.

"Did you give directions to them?" I asked.

She said "Sir, it is going to be at least a couple of hours by the time you reach here."

"What do you mean?"

"It will take you a couple of hours to reach us on the island in your jet plane; sir, our hotel is in the Azores, and you are in Cascais."

Somehow, I had managed to make a booking in a hotel on a Portuguese island 800 nautical miles into the Atlantic off the coast of Portugal. My 'Companheiros' did not let me forget it, and I had to pay a large tip to both the taxi drivers to stop them laughing, before they drove us to a decent hotel in Lisbon.

Right: Coimbra airport north of Lisbon looks hacked out of a mountain
Bottom right: descending to remain VMC near Santander on the north coast

Next day we continued north, homeward bound through Spain and France. Losing radio contact with Cascais ATC was expected as we veered around a 1,500 foot high forested peak just north of the airport, following a VFR route towards the seaside airport of Santa Cruz (LPSC). We continued north past Coimbra (LPCO), over fertile lands with various shades of green in stark contrast to the arid Spanish soil, towards Porto and crossed the deep ravines of the Rio Douro, which empties into the Portuguese coast but starts in the Spanish mountains. This river valley region is well known for its fruit and the vineyards along the steep slopes of the Douro produce the dark sweet grapes from which Port is made.

Our destination was Lugo in Spain; highly recommended by some of my Spanish friends. It is a place of pilgrimage for Catholics, on the penitent trail from Lourdes to Santiago de Compostela. The airfield at Rozas has a very busy aeroclub and a commercial firefighting operation with a fleet of bright yellow single engine Dromader aircraft capable of carrying 2,000 litres of water or powder to douse the frequent forest fires in the area. While waiting our turns at the fuel pumps we got a chance to sit in the cockpit of the chunky, no nonsense planes built in Poland.

The weather seemed to be turning, with the evening overcast and rain forecast. In the evening we walked around the churches and narrow alleyways. The old town centre paths were inlaid with markers leading the penitent pilgrim along the path to salvation. These ancient metal markers had been polished to a permanent gleam by sinners walking barefoot, and by many who dragged themselves fully prostrated on the ground.

After two days of enforced rest due to poor visibility we were ready to fly north and reach home on time as planned. Our route would take us through the western edges of the Pyrennees. We climbed to over 8,000 feet to stay clear of the clouds in the mountainous valleys and headed towards the Asturian coastline, planning to land at Biarritz for a quick refuel and lunch. However, that was not to be. The moist Atlantic breeze continued to create orographic clouds in the hills, so we went out a little over the sea and descended below the thin cloudbase into light drizzle. Ray and Anita were leading this route and called on the radio to say that we should divert to land at Santander.

That was a good decision, and after a short lunch break and low landing fees with least hassle, we were on our way to Niort airfield. The town of Niort was hosting the French Olympic team in preparation for the London Olympics. We were well received and the young and energetic airport manager rounded up some club members who ferried us to a local hostel for the night at the nearby town. Next morning we were presented with goodie bags full of local honey, biscuits, wine and cheese from the Town Mayor for having landed at his airport! 'Must visit again', was the remark I made in my log book.

After all the hard flying in Spain and Portugal, the flight from Niort to Abbeville for customs and coffee was very relaxed due to good weather and flat countryside. Our group said our goodbyes at Abbeville and we took off in line astern with Geoff going off to the west of England, Ray and Anita to their home field in Norfolk, Richard and Philip to their field near Biggin Hill. We sped off at our usual 90 knots to Damyns Hall. The Channel was very pleasant to fly over, and we could see the English coast from 30 miles away. A cracking adventure! Good company, good weather, good food and drink! ■

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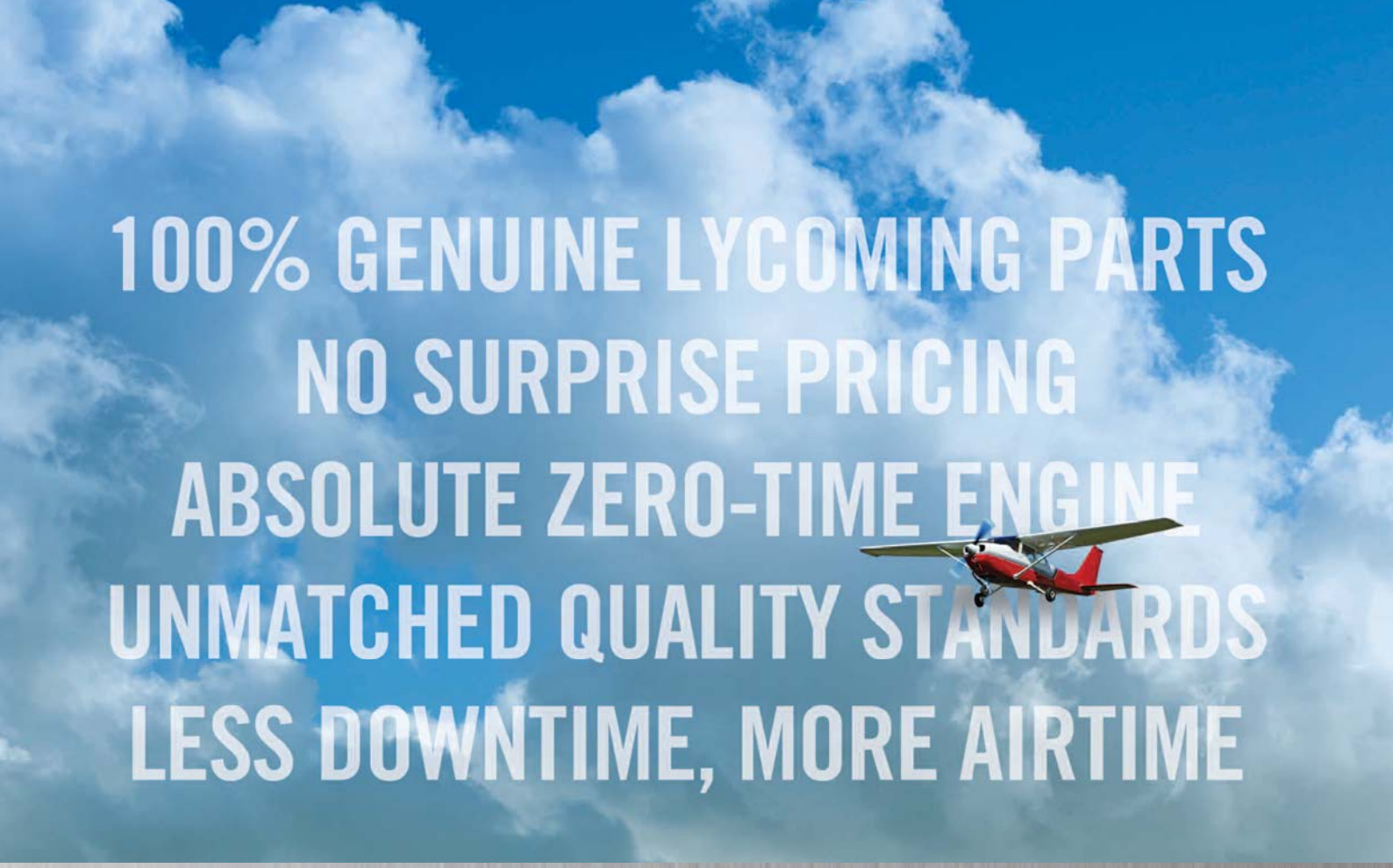

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