Instrument Pilot
The *PPL/IR Europe* Magazine No. 87 September-October 2011

The future of instrument training

Notice of Proposed Amendment (NPA) 2011–16

Jim Thorpe, member of the FCL008 expert group for the IR for PPLs, outlines the shape of things to come as proposed in the current legislative draft*

CONTENTS

PPL/IR EUROPE

The long awaited proposal setting out the future shape of instrument qualifications for the private pilot has been published. It is a weighty document, and in due course we will post the sections of special importance to us on the website. This article is an explanation of some of the thinking behind the proposals. ***PPL/IR Europe*** have been intimately involved with the process of re-designing the requirements for IR training over several years and more recently this has come into sharp focus with our representation on the FCL 008 working group. The outcome to date is everything we ever hoped for, and far exceeds our initial expectations. There is a real chance that, if implemented, these proposals will make European instrument flying viable for far more people. More instrument pilots would mean a far greater chance of getting our voice heard, and improving the way ATC and airports support the way we fly. The proposals have the potential to be of great benefit to all existing IR holders and offer some very specific benefits for those flying on FAA licences.

EASA has put substantial effort into producing something which is of maximum benefit to GA pilots. However what happens in the real world is a last minute process of drafting under the considerable pressure of a publication deadline. Everything has to be examined to ensure consistency with existing related legislation. There are reviews by senior management and lawyers. These can try to become instant experts and come up with ways to 'improve' or address issues which may or may not be real. Often these last minute amendments produce unintended consequences. These in turn are addressed by the original drafters of the document in a flurry of email exchanges. In the end, exhaustion and compromise occasionally overcome internal consistency and logic. This is a longwinded way of saying there will undoubtedly be small errors and perhaps slightly better ways of doing things, but that is why the consultation process exists. EASA has made huge efforts to deliver what we asked for on behalf of ***PPL/IR Europe*** members.

P 3 ►

** With additional information from Timothy Nathan*

PPL/IR Europe is open to any pilot interested in the operation of light aircraft under IFR in Europe. The annual subscription is GBP60 and more details are available from the Membership Secretary.

Instrument Pilot is the magazine of ***PPL/IR Europe*** — a company limited by guarantee registered in England at Hamlet House, 366-368 London Road, Westcliff-on-Sea, Essex SS0 7HZ, No. 4379059. The views expressed in this magazine are not necessarily those of ***PPL/IR Europe***. Readers should be aware that the magazine is written mainly by amateurs. While reasonable efforts are taken to check the accuracy of statements in the magazine, no confidence should be placed in them unless independently checked and confirmed by an appropriate authority. Contributors to the magazine possess no greater expertise than that of their readers. Therefore, no advice, guidance, recommendation or factual statement should be relied upon until checked against a more dependable source. Neither the officers nor the contributors nor ***PPL/IR Europe*** accept responsibility for facts or opinions stated in this magazine.

Editorial e-mail:
theeditor@pplir.org
Website:
www.pplir.org

Art direction & production
Paul Turner
paul@exec-flight.co.uk

Printing and distribution
The Oceans Group

Instrument Pilot
(Print) ISSN 1747-0382
(Online) ISSN 1747-0390

Directors of PPL/IR Europe

Members of the Executive

Press Officer

Membership Administrator

*Annual accounts for the company are available on the website. See www.pplir.org – **About Us***

*For reports on meetings, conferences and other activities attended in the last 12 months by directors and members of the executive on behalf of **PPL/IR Europe** members, see www.pplir.org – **Lobbying***

Aircraft Ad

Two flying shares (no capital) in Cardiff based Piper Dakota

Single owner and operated with 6 flying shares. Fully airways equipped. Based at Cardiff International airport in its own hangar. Web-based booking; excellent availability and no restrictions for private/business use or touring.
Two flying shares available for suitably qualified pilot with IMC or IR rating and 200h PIC.
£204/£180 pcm for five or six shares, £127 per tacho hour to share running costs.

Specification: PA28-236, 1982. Full airways equipped: incl. Garmin 430W (with BRNAV and GPS approach approvals) coupled to 3-axis Century 2000 autopilot, electric trim, HSI, Mode S transponder, DME, dual VOR, dual altimeters, ADF, WX900 Stormscope, JPI700 engine analyser, FS450 fuel flow monitor, and Precise Flight vacuum backup system. Operated with 4 headsets (2 ANR), 4 life jackets, 2 single person life raft, emergency ELB plus 2 McMurdo PLBs and ICOM-A20E handheld radio, aerial and power wiring for backup handheld Garmin GPS.
Contact Steve Dunnett: dunnett@cf.ac.uk or telephone 02920 875541.

Theoretical knowledge (TK)

The proposed new syllabus contains about 50% of the original JAA learning objectives, and almost all the irrelevant material has been removed. We argued for a single exam, but this did not fit with the overall EASA examination process so we still have seven subjects. The actual delivery of the exams is the responsibility of the National Aviation Authorities, so it is not clear how this will work in practice. However, EASA has indicated that a single exam can be considered. The NAAs have no ability to change the content of the exams or the syllabus. There is no legislative reason why the exams could not be taken one paper at a time, or all at once, and one or two of the papers have such a restricted syllabus that they are almost trivial. I have rather come round to the view that a flexible approach with multiple papers gives candidates the best chance of structuring the process to suit their own learning style. However there may still be the problem of limited exam sittings at inconvenient locations. One of our future tasks will be to discuss with the NAAs what might be possible. There is no chance of an online EASA process in the foreseeable future, as no funds exist to develop it. The Enroute Instrument Rating (EIR) and the Competence Based Modular (CBM) IR will have identical TK. This does mean that the TK for the EIR is somewhat more extensive than the ideal, but it was felt that practicality and the advantages of a joined up process of moving from the EIR to the full IR far outweighed this disadvantage.

Enroute Instrument Rating (EIR)

The privileges of the EIR are summarised elsewhere in this article. It is intended both as an intermediate step to a full IR and as a more attainable qualification for those who want to fly on airways under IFR, but are only going to fly when both departure or destination are in VMC. It acknowledges the fact that most IFR flights are carried out in these conditions anyway, and that there is a class of leisure pilots who will cancel their trips rather than deal with hard IMC. One question we have been asked, in the light of the EASA proposals expressed intention for the EASA IR to be competitive with the FAA/IR, is, if the USA finds no need for a lesser qualification, why do we need one in Europe? The FCL 008 group discussed this at length, and came to the conclusion that the cost and regulatory structure in Europe means that we could never be quite as flexible and economical as the USA. Thus, on balance, it was desirable to have a qualification which gives utility in its own right and could be used as a stepping stone to the full IR. I have come to believe that this will be a very practical and valuable qualification. There is a big demand for some post PPL process of improving competence and confidence in a structured way. Quite possibly many future EIR holders will choose not to exercise the right to fly at FL 130 through the London TMA in a PA 28, but will use it to enable them to get to the South of France in a safe, comfortable, ordered and controlled way. Pilots in the main are capable of making sensible decisions to limit the exercise of privileges in a way that matches their capability and that of their aircraft to the task and the current conditions. Pilots exercising the rights of the EIR will have to be careful about planning for the weather conditions at destination, and to plan alternates, but this is only the same as the full IR, but with higher minima. EIR holders will be trained to understand this requirement.

Competence Based Modular (CBM) IR

Competence Based Modular IR is not exactly a catchy name. It is a mouthful and was designed as such. It will never be used other than to distinguish the learning process. We fought hard to ensure that descriptions like “Basic”, “Restricted” or “Private”, which had an implication of second class, were not used. Once the skill test is passed it is just an IR like any other, just as nobody describes their ATPL as being ‘modular’ or ‘integrated’. The learning process is competence based, but, to be ICAO compliant, a minimum number of hours must be stated. Under EASA regulation some training must happen in an Approved Training Organisation (ATO). It was not therefore possible to have all instruction done by an independent instructor as it is in the USA. The compromise arrived at is the minimum ICAO 10 hours in an ATO, with the balance of the 40 hours instrument time achievable by flexible means. For those who have limited time or money, it provides a flexible and progressive way of obtaining the qualification. It is also likely that a pilot who acquires an IR in this way will have far more experience of the real world of single pilot instrument flying, and will be far better able to take advantage of the rating than someone trained by the current methods.

Commercial Pilots

The NPA is intended to have minimal relevance to commercial pilots, with one exception. The aim was to avoid appearing as a threat to existing commercial pilot schools. The CBM IR TK gives no credit against CPL or ATPL theory. You could envisage that a young pilot intent on an airline career, with minimal resources might achieve an IR by the CBM route at somewhat less cost that at present. However it is doubtful if a process which had as its sole aim minimising cost would deliver quality training. The risk of not passing the IR skill test in a MEP aircraft at the first attempt would be significant, and might wipe out any savings. It is also doubtful if this kind of training history would impress a potential employer. Any rational analysis should convince flying schools that what we have here are significant new business opportunities with minimal negative impacts on current income streams. The exception is the career instructor who cannot take on the cost and inconvenience of current training routes to the IR, but who could attain an IR by the CBM route.

MEP

There is no MEP specific route to the CBM IR at the moment, only an upgrade path. This was a rather unsatisfactory situation caused by last minute drafting issues, and hopefully it will be resolved during the comment response process.

Simulators

FCL 008 proposed tighter limitations on the use of simulators, but the final draft has increased this back to 30 hours of allowable sim time. This is a difficult balance to get right. Firstly, most schools at present don’t take the maximum allowable sim time since it is not possible to get candidates up to skill test standard in the residual dual time on the aircraft. Current simulators are very poor approximations to real aircraft characteristics, and in reality are more like procedure trainers. Secondly, FCL 008 felt it was desirable to give smaller schools a chance to compete and it is unlikely they will be able to afford the capital investment a sim represents. Dependence on sim training could be perceived as giving existing commercial schools an unfair advantage, limiting the desirable spread of schools offering IR training. It seems to me that new thinking is needed to define ideal course structures for various types of candidates. Schools might be able to co-operate and contract

the sim element of their training to a specialist organisation. New achievable full motion sims for GA are operating in the USA and are close to certification in Europe. There is definitely scope for some original thinking in the flying training community.

FAA IR holders

This issue was not within the FCL 008 brief, but ***PPL/IR Europe*** drafted a clause which formed the basis for that now in the proposal. An FAA IR holder with 100 hours instrument time is not be required to do any compulsory training, but does have to pass the normal IR skill test. There is also a TK requirement which is a carry over from existing legislation. The way of satisfying this requirement is not specified. It might involve a special 'foreign pilot' exam in an ATO, an aural as part of the skill test, or having to pass some of the new TK exams. It could be that the current high level negotiations between the USA and Europe will produce some agreement on mutual licence recognition. It seems unlikely however, that this would be an absolutely unconditional recognition, and of course it may never come about at all. We believe we have delivered a solution for our members which is workable and will remove uncertainty. If something better comes along then that is to be welcomed, but we suggest FAA IR members plan on this being the only option.

The IMCR

It is stated in the NPA that it is not EASA's intention to curtail any of the privileges currently enjoyed by national or JAR licence holders. That means that a mechanism has to be found to allow IMCR holders to exercise their current privileges in UK airspace. The UK CAA has proposed that EASA issue some sort of restricted instrument qualification. The restrictions would mirror existing IMCR privileges and be limited to UK airspace. This is only a grandfather type transitional arrangement. The good news is that everyone seems committed to finding a grandfather rights solution, and it's only the mechanism that needs to be resolved.

The Regulatory Impact Assessment (RIA)

Members may find the RIA interesting to read. EASA has made serious efforts to acquire fresh data, and while the input from some NAAs seems a little hard to believe, some insights emerge. To some degree, the RIA is a bureaucratic process which justifies a decision already made in principal. In particular, it almost inevitably offers as serious options possibilities that have been dismissed intuitively as non-starters early in the process. Nevertheless, it represents a good attempt to provide a rational framework in which to assess proposals.

What happens now?

There is a consultation process. It is very important that ***PPL/IR Europe*** members respond. By all means make suggestions or criticise constructively, but please remember that carrots work as well, if not better than the stick. EASA have taken a lot of stick in the recent past, and giving some judicious praise and support would be both welcome and useful. There are stakeholders such as airlines, NAAs and ATC who could take quite negative positions on these proposals. EASA have to take account of all views, and if no one bothers to offer support, the negatives gain additional weight. Having considered the consultation responses, EASA will produce a comment response document, and in due course provide an opinion to the European parliament. Then there will be a political process, hopefully to bring the proposals into law. ***PPL/IR Europe*** will be active in contributing to and monitoring this process to help ensure that they come into law. I guess that even if there is no strong opposition we are talking about a timescale of more than a year.

The details for responses are:

- **NPA-2011-16 'Qualifications for flying in Instrument Meteorological Conditions'** on EASA website. See: http://hub.easa.europa.eu/crt/docs/viewnpa/id_135.
- To place comments please logon at http://hub.easa.europa.eu/crt/.
- For further information please contact Rulemaking Process Support at RPS@easa.europa.eu.

EIR Basic facts

- Can be applied to any aircraft for which a type or class rating is held.
- 15 hours total instrument training, of which 10 must be in an ATO.
- Must arrive and depart under VFR.
- Can Fly IFR and IMC in any class of airspace.
- Renewal and revalidation is by annual skills test, following the current IR model.

CBM IR Basic facts

This is expressed in the NPA in a very convoluted way, but it means 40 hours instrument flight time of which at least 10 hours are in an ATO and of which at least 25 hours are dual instruction. Up to 30 hours can be in an FNPT 1 or 2 which of course is pretty irrelevant. At least in theory an exceptional candidate might do 15 hours dual instruction to obtain an EIR, do the minimum 10 hours in the ATO for the IR thus having 25 dual instructional hours. He could fly the balance of 15 hours for the 40 as P1. There is also a pre-course assessment flight by the ATO prior to the minimum 10 hours and this could also be counted. I think the language used arises from a rather unlikely scenario of one PPL acting as safety pilot for another PPL under the hood in VFR conditions. In reality, for almost all candidates, the whole 40 hours will be dual instruction of one sort or another. The reality is that the majority of candidates will need more than the minimum of high quality instruction if they are to pass the skill test. Revalidation and renewal arrangements are unchanged.

TK Basic facts

This is common to both the EIR and the CBM IR. 100 hours instruction is specified, but this can be by distance learning. Of these, 10 hours of classroom is compulsory but this can be satisfied by teaching within the ATO as part of the flight training. There will be 150 multi choice questions split over 7 subjects with a total time of 3 hours 50 minutes. It is up to the NAA how the exams are combined, but they could be completed in a single day.

Third-country IR holders Basic facts

Those with 100 hours instrument flight time as PIC can take the skill test without any compulsory training. They must show knowledge of air law, met, flight planning and human performance. The way of demonstrating this is not yet defined.

I learnt about (instrument) flying from that

Transponder failure in Class A airspace

Stuart Hawkins plans for every reasonably likely contingency, but still finds himself having to deal quickly with an unanticipated problem.

My wife and I were above the Lake District in a rented Cirrus SR22 returning back to Bournemouth after a pleasant weekend in Edinburgh. We were flying along at FL90 in what I considered to be perfect IFR weather; crystal blue sky above while skimming the tops of white puffy cumulus clouds directly below us, in class A airspace routing from Dean Cross VOR to Pole Hill VOR. I was reaping the rewards of having obtained my Instrument Rating just two years before. This was only my fifth cross-country flight in class A airspace since obtaining my IR, and the novelty had not worn off.

I was relaxed as I thought I'd planned for every eventuality. If the engine failed I could glide for 13 nm, and I'd have about 10 minutes to troubleshoot, make a Mayday call and get vectors to a suitable safe landing site. If I failed to get to a safe site, I could always pull the CAPS parachute as a last resort. I wasn't worried about a mid-air collision as ATC were watching over me, plus I also had TCAS as a backup. Icing was a possibility, but I had a TKS de-icing system and if that didn't work, I could descend to my MSA which was forecast to be well above freezing for the entire route. If the PFD failed I still had the standby altimeter, ASI and attitude indicator to keep me straight and level. If the MFD map failed, I still had dual GNS430 GPS's with moving map displays for navigation. I also had a hand-held GPS with my route stored as another backup. What about a total electrical failure? Well that was unlikely given that the Cirrus has both a main bus and an essential bus with two alternators and two batteries. Communications failure? I had two com radios and a mobile phone as a last resort backup. What else could go wrong? I thought I'd planned for everything, but there was one failure I hadn't considered.

FAIL

As I was handed over from one controller to the next, I suddenly noticed a 'FAIL' message on the transponder (Garmin GTX330 type). I had not seen that before, but I thought that a quick power recycle would probably bring it back. I turned it off and on, and it came back to life without the 'FAIL' message, but at about the same time the controller reported that they'd lost my transponder. I told them that I'd just recycled it, but they still weren't showing me on secondary radar. I recycled the power again, but no result. I then located the circuit breaker for the transponder and tried recycling power with that; still no joy. Occasionally the 'FAIL' message would reappear but not all the time. I asked the controller if I was going to be able to continue in controlled airspace without my transponder, and he said he'd get back to me. I was hopeful, until I was told that London control would not accept me without a transponder, and that I should return to Edinburgh. Edinburgh was about 45 minutes behind me, and I didn't fancy waiting there for days potentially to have a new transponder installed. It seemed that I should at least make an attempt at continuing VFR outside controlled airspace. If the weather turned out to be unsuitable, I could always divert to somewhere closer. The question was how; how do I suddenly re-plan an entirely new route from just north of Manchester all the way to Bournemouth while flying? My current route was going to take me straight over the top of the Manchester zone. I requested if I could transit the zone at 4,000 feet. That request was denied and I was told to remain clear. I started my descent.

My heart was racing. I knew that what I was about to attempt was going to be hard work. How nice it would have been to have still been bumbling along at FL90 on autopilot without a thing to do. I tried recycling the transponder a few more times but to no avail. I was now committed, and as we descended on autopilot I scanned the VFR chart. We were very close to the Pole Hill VOR now and it looked like the only way to avoid the Manchester zone was to descend below 3,000 feet, and thread through the narrow gap between the Manchester and the Leeds Bradford zones. I couldn't find a waypoint to use that would get me through the gap, so I was going to have to use heading mode and watch the map; something I didn't like doing but I couldn't see another option. Next question, what altitude should I descend to? I was passing through different layers of cloud but could occasionally see the ground. I scanned the terrain elevations in the gap I was going for and they were all around 1500 ft to 1600 ft – not reassuring. I decided to level off at 2,900 feet, which would give me at least 1,000 ft clearance from terrain, and a minimal 100 feet clearance from the Manchester airspace above. I tried not to think too much about the rest of the plan, but I couldn't help flipping between the northern and southern charts trying to work out the next stages. Flying down between the East Midlands and Birmingham zones to Daventry VOR looked logical, and I drew a rough line with my china clay marker.

Descent rate

The controller kept on asking me for my altitude. I had forgotten to increase the descent rate from the autopilot's default 500 ft/min, so I now increased it to 800 ft/min descending through 5,000 feet. Then I remembered that I needed the QNH, which I had to ask the controller for twice before

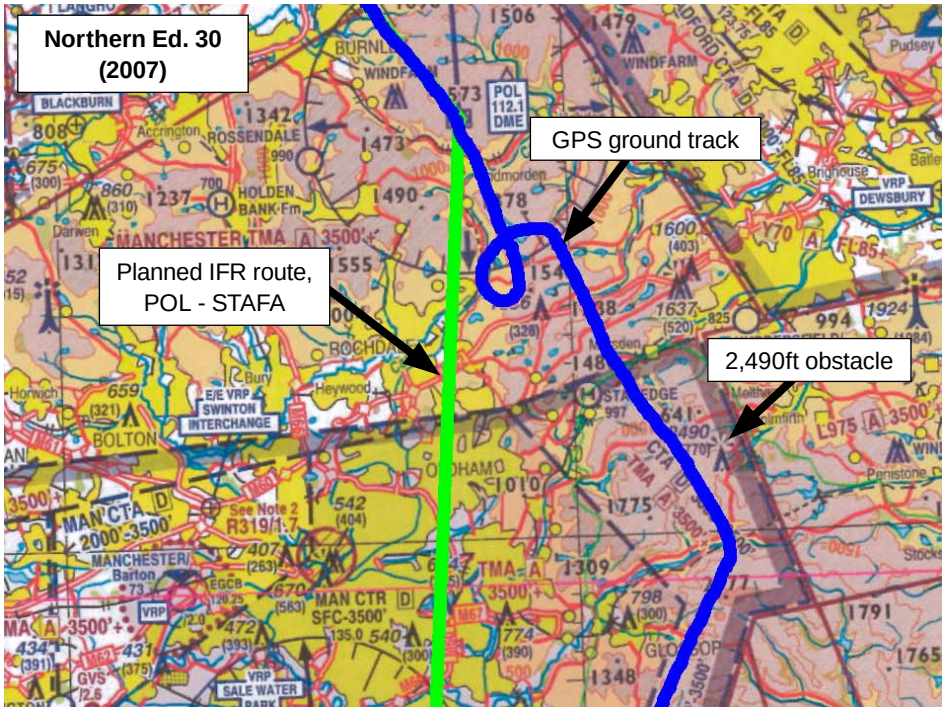
I finally got it. It was now apparent that I wasn't going to be able to make it down to 2,900 feet before reaching the Manchester zone, and I told the controller I was going to do an orbit. When I finally got out of his airspace (I think he was quite relieved about this) he told me to contact Manchester. As I recall, the Manchester controller gave me a basic service but I can't be sure now.

CFIT

I levelled off at 2,900 feet, but I was only just below the scattered to broken cloud base. I couldn't see very far ahead, and the ground looked uncomfortably near. I then saw a mast off to my left which looked ominously close. Checking the chart elevations again, I noticed a 2,077 ft peak on the chart that I hadn't seen before, and I was heading straight for it. At the same time, my wife pointed to the GPS screen which was displaying a terrain advisory message, but I couldn't see the terrain ahead. I suddenly realised how CFIT accidents can happen. Immediately adding power, I started to climb into the cloud and made a PAN call, saying I was IMC and climbing into the Manchester zone due to terrain. The controller was suddenly very helpful, and told me that I could climb to 3,500 feet which was his minimum vectoring altitude. It was a relief to hear I would be at a safe altitude. He then asked me if I needed any other assistance, but I was ok for now. He then helpfully gave me radar vectors to keep my inside his zone using my primary radar return. I was going in and out of scattered clouds at this point and was asked if I wanted to continue IFR or VFR. IFR was my preference, but I was told that wasn't going to be possible beyond the primary radar coverage. The outcome was that I headed off south towards Daventry VOR and was handed over to an East Midlands controller who was equally helpful and gave me a basic service.

Eventually, I was clear of cloud while still at 3,500 feet and I started to relax; my wife started to relax too. I requested and was given the Bournemouth weather. They were reporting just few clouds at 2,200 feet and the weather ahead looked good so we decided to carry on. There was a lot of glider activity near Tatenhill which the controller warned us about. My wife kept a very good look-out, while I started to draw lines from Daventry VOR to Westcott NDB to Compton VOR to Bournemouth, and entered the route into the GPS. This would take us over the top of the Benson MATZ which turned out to be a good route, because when I contacted Brize they warned me that

Memory map chart Ed. 30 showing planned route in green and GPS ground track in blue



Weston-on-the-Green was active and there was an air display on at Oxford. The rest of the journey was uneventful bar some course deviations to avoid a couple of gliders. I called Bournemouth for a visual join due to transponder failure and made an uneventful landing.

When I got home, I looked at the chart again to see if I could identify the mast we had come close to. I was shocked when I saw that it is an obstacle marked with an altitude of 2,490 feet (770 ft height), and that we were just 400 feet above it. When I downloaded our GPS track it revealed we had flown within 0.8 nm of it. The obstacle is more clearly marked in the 2007 chart (edition 30) than it is in the latest 2011 chart (edition 34), but I still should have seen it. With hindsight perhaps it would have been better if I'd diverted to Blackpool. Once on the ground, I could have planned a VFR route in slow time, worked out the MSA's, checked the weather and checked the NOTAMs. I could then have also considered flying through the Manchester low level corridor which is something I did not consider in-flight because I was not familiar with all the visual reporting points. Or perhaps I should have requested a hold at Pole Hill VOR and maybe then, with the extra time to plan, I would have noticed the obstacle and higher terrain on the chart. My IR training didn't cover transponder failure, possibly because that was considered a benign failure compared to an instrument failure. However, this experience taught me that a transponder failure in class A airspace

The 2,490 ft obstacle is less prominent in the current ed 34 (2011) chart below. The numbers are smaller and the colour is paler. It blends in with the zone boundary which is the same shade of blue.

is not a benign event. I think all IR pilots need to consider what they would do if they suffered a transponder failure in flight, which is why I decided to write about my experience. I am pleased that I made the PAN call. It was my first occasion to do so in 17 years and 560 hours of flying (I've never made a MAYDAY call). Suddenly, help was on hand and the tone of the controller changed immediately. I won't hesitate to make another PAN call in the future if I get into a difficult situation. The controllers can't necessarily tell that you're struggling until you ask for help.

Transitioning to a Jetprop

By Paul Sherry

In the final part of his three part article, Paul Sherry describes bringing the Jetprop home across the Atlantic and gaining more familiarisation.

Across the pond, Day One

We are in the hotel lobby at 05:00. The car from the FBO is late, but not very, and we head for the airport. At that point Travis finds that the aircraft has not been fuelled as requested, so there is some scurrying around to get it sorted. We are tight for time as we have a long way to go today, flying eastward and the time zone shift is working against us. I run back into the FBO to pay the bill, whilst Phil and Travis settle themselves in up front. Things are a bit rushed.

Back at the aircraft I settle myself in the back and we depart for the leg from Burlington (KBTV) to Goose Bay (CYYR). This is 730nm and turns out to be the longest leg on the trip because of both distance and adverse winds. It takes 3:21. We have a fabulous view of the sunrise over Vermont, followed by the mouth of the St. Lawrence river and the eastern Canadian seaboard before tracking up towards Goose Bay. We are over land, but it is seriously desolate and barren. About 60nm out, we commence our descent toward Goose Bay and land safely, taxiing in to park up on a huge apron which is all but deserted. Travis calls up Canadian immigration on the radio to see whether they are coming out to inspect us or not. They decide not to, and give us our reference number. This turns out to be just as well, because I am scrabbling around in the aircraft looking for my rucksack which contains my passport, all my identification papers, credit cards, laptop and a few other high value personal items. The penny drops; in my rush to pay the fuel bill, did I leave my rucksack in the FBO in Vermont? A phone call confirms that to be the case. They kindly agree to FedEx the rucksack to my home address, but that does not solve the passport problem. After discussion, Travis suggests we just blag it from here. Fortunately, I do have one credit card in my pocket which is the one I used to pay the fuel bill in Vermont. We refuel the aircraft and I pay with my one and only form of ID.

The next leg is the first of the oceanic crossings. This runs from Goose Bay (CYYR) to Narsarsuaq (BGBW), and is 670nm. There is nowhere hard to put down if something goes wrong. I am flying this leg, and we depart starting our climb all the way up to FL270. Travis negotiates our oceanic crossing clearance with Goose Bay and Gander Radio and we are on our way – definitely feet wet. The winds on this leg are very favourable, with up to 95 knots on the tail and a maximum ground speed approaching 380 knots at times. The engine continues to purr like a kitten, and we cover the distance in 2:17. There are no dramas en route, apart from the autopilot playing up a little. This is just in altitude hold mode at FL270; very odd. Travis rightly predicts that

the substantial tailwind will mean trouble landing in Narsarsuaq, and as usual he is spot on. We break cloud at about FL70 and are now visual with the fiord and soon the airfield. He tells us that that the turbulence will increase as we descend, and so it does. I continue to hand fly it toward a visual approach to the up-sloping runway but as I turn onto left base at about 1000 ft AAL, the turbulence moves from being bumpy to unpleasant to almost uncontrollable; at least to a low time Jetprop pilot. There is only one thing to do, 'you have control,' and I leave it to the expert. The winds are causing huge rotors off the surrounding cliffs and Travis does an amazing job to level the aircraft and get the wheels down on the runway without damaging anything.


Narsarsuaq

Phil and I also learn our first lesson in handling a turboprop in unpleasant conditions, which is that as soon as the wheels touch the deck, select beta range (partial reverse). This kills the lift and the speed so much that the aircraft plants itself on the runway and just stops. This has got to be one of the most remote airfields on earth. They have two essential things, a fuel truck and a toilet. It is ruggedly beautiful, but we are not seeing it in the best weather. I pay the bill (again) and we are on our way, having been on the ground less than an hour.

We are now headed for Keflavik (BIKF) with a great circle distance of 652nm. This is our final leg of the day, and it is Phil's turn for the hot seat. We depart from the up sloping runway, and are about 50ft off the ground when the aircraft drops 30ft like a stone. It is another demonstration of the power of the engine. If this had happened in a piston, the wheels would have been back on the deck. As it is, 560 SHP of Canada's best pulls us out of trouble and we climb out of the worst of the low level turbulence. I get some pictures of the icebergs in the fiord. Back up to FL270 and we settle in for the cruise. The flight time is 2:32, and I think all three of us are relieved when we reach top of descent and point the nose earthward for the final time today. The runway at Keflavik is astonishingly long, as it was built for huge military transports. Phil pulls off a gentle landing, taxis in, and shuts down for the final time. Today we have covered 2052 nm with a total airborne time 8:10. This is an average ground speed of just over 250 knots.

The excitement is not quite all over. Firstly, I have turned up in Iceland with no passport. Travis suggests I hoof it to the FBO and take a long toilet stop. I see a customs and immigration officer hanging around and try and keep a low profile. Eventually he gets into his car and drives off. Problem solved? Then I see one of the FBO staff get a compressor out of his van and take it out to the flight line. With the customs officer gone, I wander back out the aircraft to find we have a flat right main tyre. We try and re-inflate it, to no effect, so unload the aircraft and head back to the FBO a little dejected. After all, where do you get a new inner tube for a PA46 in Keflavik in the early evening and then get it fitted in time for departure the following morning? It looks like we might be stuck here for a couple of days. Amazingly, a new inner tube is located in Reykjavic, which is about 50 miles away. The FBO operator kindly offers to drive over that night and pick it up, and then we will try and sort something out in the morning. There is a chance that we might get out of Iceland on schedule after all. We head for the hotel and then to a restaurant where we are the only customers. It's quiet.


Inspecting the deflated tyre in Keflavik

The following morning we head back for the airport to find the inner tube there, but no engineers. Many phone calls are made, and eventually a van turns up at the aircraft complete with jacking equipment. The tyre is removed. We are desperately hoping that it is only the inner tube that has failed with no associated damage to the tyre or the wheel rim. An hour later the wheel is returned to us, complete with a new inner tube fitted, and re-installed on the aircraft. We are on our way again.

The home straight

The final over water leg is from Keflavik (BIKF), to Wick (EGPC). It feels good to be filing a flight plan to an airport with EG in the designator. The distance is 652nm, and the flight time is 2:38. We track along the southern coast of Iceland before heading out over the Atlantic, just south west of the Faroe Islands, for the final time. About 45 mins out from Wick the call comes on the VHF – '*contact Scottish Control on XXX.XX*'. Blighty is in site, and we are nearly back on home soil. The weather is typically Scottish; cloudy and wet. We are landing on runway 13 and Phil is flying. Travis takes the opportunity to teach us both how to fly an NPA using the autopilot. Phil selects the approach on the GPS, leave the AP in GPSS steering mode, and then use the rate selector of the AP to descend at the appropriate RoD demanded by our groundspeed. It works very well, and the runway hoves in site just at the right time. The three of us walk to Andrew's facility at Far North Aviation where Travis has pre-ordered fish and chips – welcome home!

There are one or two formalities to complete here, most notably the documentation concerning the importation of the aircraft to the EEA. Andrew acts as an agent for HMRC, and for a remarkably competitive fee he will handle the importation issues. Prior to the flight, I had transferred the agreed sum for VAT to HMRC and Andrew had all the provisional paperwork there ready to go. I was given an official HMRC receipt for the monies paid, plus some other paperwork, and was told that the C88 would follow in the post; which it duly did within a few weeks. We were legal to enter the country. Well I wasn't, as I still didn't have a passport, but no-one checked! After one hour on the ground, I climbed back into the pilot's seat for the final leg, just over 300nm from Wick (EGPC), to Liverpool (EGGP) with a flight time of 1:50. It was, of course, uneventful, but after 3500nm it was a thrill to hear Scottish Control finally say to us '*contact Liverpool Approach on 119.85*'. We were back and N921GG had arrived at its new home.

Learning to fly the Jetprop

Just because Phil and I had spent a fair amount of time in the left hand seat did not mean that we knew how to operate the aircraft safely on our own. After a day off on the Thursday (funnily enough we had all had enough of flying), a flying training programme for the five of us commenced on the Friday. I was first up as I had booked some annual leave, but Travis went through exactly the same training programme with us all. Over the weekend we used the classroom facilities at Ravenair at Liverpool, and Travis gave us a comprehensive ground school on the aircraft which lasted the best part of two days, interspersed with some good breaks and some teaching about the various aspects of the aircraft in the hangar. The ground school covered all aspects of complex high altitude aircraft operation, including engine and associated systems, instruments, pressurisation and air conditioning and, of course, various failure modes and what to do about them. All aircraft have their 'weak' spots, and it is good to be taught about items that have known to have failed in other aircraft, and how to avoid it happening in one's own. For example, there is a well recognised fault that can occur with the gear down and locked sensor. After long flights at altitude, the small ball bearing that drops into a groove on the hydraulic ram can stick and give a false indication that the landing gear is not down and locked. The fairly easy solution is to recycle the gear which brings warm hydraulic oil from inside the cabin into the system and resolves the sticking. Easy when you know how. The Jetprop fuel system is slightly unusual insofar that it has a header tank mounted in the nose locker. Unlike a piston engine, turbine engines do not react well to fuel starvation. A piston engine, assuming the propeller is still turning, will restart almost immediately when fuel flow is restored; a turbine engine might not be so forgiving. So Rocket Engineering install an 11 gallon tank in the nose locker which is fed from the wing tanks. This also involves 5 different electric pumps and you do need to know what to do should any of them fail. Knowing an aircraft and its systems is an essential prerequisite to operating it safely.

Coming to the flying side, there was nothing that any other pilot would not recognise in getting used to a new aircraft; slow flight, stalls, steep turns (which it does very nicely) and general handling. I think most of us struggled a bit with the circuit work. Julia Roberts once famously said in the movie Pretty Woman, '*slippery little suckers*' and that describes the Jetprop. It is a very clean aircraft and accelerates very quickly if careful attention is not paid. Indeed, in the early years of the PA46, the aircraft was subject to a special certification review after the fatal accident rate was unacceptably high. This mainly turned out to be low time pilots suddenly operating at high altitude and getting themselves into situations with which they could not cope. One interesting item in the Travis Holland training schedule is the engine shut down in flight. Doing this to a single engine aircraft is a new one on me, but Travis believes that it is a valuable part of the training. It is an interesting experience to handle the PA46 engine off. It is remarkably docile and, on trimming back to 90 knots, the descent rate is genuinely 500-600fpm. I understand that in the right conditions it is possible to thermal the aircraft and it has certainly been ridge soared. The exercise is undertaken at altitude. My experience was at 15,000ft over Newquay airport. The power lever is retarded and then the prop lever feathered. This leaves the engine running at idle, but producing no thrust. Finally the fuel control lever is pulled back to shut the engine down. It all goes very quiet, but it is genuinely a non-event. The aircraft is docile and feels very controllable. After a few minutes, the checklist is perused and what is known as an air start is performed. Again this is unremarkable, but the airframe can shudder a little as the oil pressure comes up and the prop comes out of feather. After that, it is into the circuit for some landing practice. This is, I feel, where we all had to learn again that Power + Attitude/Configuration = Performance. So if you set 500lb/ft of torque, with gear down and first stage of flaps you will end up doing around 120 knots in straight and level flight. On final approach with gear down and full flaps, around 300lb/ft of torque gives a nice rate of descent at about 100 knots. All of us suffered a little from chasing the airspeed with the power lever, and we all had to learn again that if you set the right power, and have the right attitude and configuration, then the aircraft will sort itself out. The final section of the training involved some ILS approaches where various parts of the navigations systems were failed to prove how much redundancy is in the aircraft. This also included flying and landing the aircraft by using the manual override on the fuel control unit. The fuel control unit (FCU) is an analogue computer which takes the position of the power lever and analogue data from a number of feedbacks from the engine – prop RPM, compressor pressures, etc – to work out how much fuel to put in to the combustion changer. There is a failure mode which can result in the engine rolling back to idle. It is still running, but doesn't respond to the power lever. This can be overcome by operating a small servo on top of the FCU via means of a toggle switch in the cockpit. It has to be done with care, but it could be a get-you-home issue.

Reflections

Did we make the right decision to exchange an ageing piston twin for a more modern airframe mated to a turbine engine? Well, I can only present my own opinion, but I would say – absolutely. Speaking personally I am completely happy with the decision we have made and am of the view that my colleagues share that feeling. We have had to get used to the single engine issue again, but having flown the aircraft 3500nm across the Atlantic and with it never having missed a beat in flight, then my confidence in both the engine and the airframe is high.

There were some lessons to be learned about the pre-buy process but I felt we took every reasonable precaution and even then a major item was missed. It does not stop us flying the aircraft, but it probably will have to be addressed in due course. Of course, if I knew then what I know now, there are some issues which we would have handled differently; but those only came to light after the event. We are now in a fairly strong position to offer advice and support if another ***PPL/IR Europe*** member were to consider a Jetprop. On the avionics front, we bought a well sorted and equipped aircraft and it was a good decision to install the Garmin G500 PFD/MFD. Indeed for that class of aircraft, such technology is rapidly becoming '*de rigueur*' and I would think that those aircraft which do not have it will be somewhat left behind in the resale market.

From a flying perspective, when I first flew the aircraft in the USA I thought I would never get to grips with it and wondered whether I had bitten off more than I could chew. Proper training from someone who understands the aircraft in depth has resolved those concerns and I now personally feel safe operating the aircraft single crew. There is always more to learn, and when Travis is over in Europe (which is quite frequently) we will all take the opportunity to have a refresher. For a PPL to be able to fly at FL270 at a TAS of 265 knots in pressurised comfort, burning about £100 fuel an hour, and without paying a bean to Eurocontrol is about as good as it gets.

The Usual Suspects

In this, the latest of his recent series of articles related to niche aspects of instrument flying, Nick Gribble looks at the main errors seen in IR tests, and discusses ways of avoiding some of them.

Introduction

It's probably fair to say that most candidates pass their IR tests first time; it would not be in a training provider's best interests to have to admit to anything else. That said, knowing that most tests are successful does not stop candidates from being nervous, sometimes in the extreme. Getting over nerves is probably as important as knowing how to fly IFR, but this aspect is not addressed in training, at least not to my knowledge. As an examiner it's critical to be completely objective, but it's hard not to wince when faced with a candidate who is so nervous that they can hardly even hold the met report without shaking uncontrollably. Examiners try very hard to put candidates at their ease, but there is only so much that we can do. My advice? Try to turn nervous energy into excitement. Visualise yourself receiving a pass certificate and think how good that will feel. I'm no psychologist, but if I get nervous before tests I employ this strategy and it works for me. It's worth remembering that examiners have to undergo testing too, usually every six months, and during this test we are expected not just to pass but to make it look easy. Bear in mind that examiners may only touch the controls for five minutes per flight and then only to take off and land, and you can imagine that achieving a good pass is every bit as difficult as it is for our candidates. Beyond nerves, there are, of course, several things that can cause an otherwise good flight to turn into a failure, and I will explore some of these in the paragraphs which follow.

Briefing

Examiners get a very good idea of a candidate's ability before even getting airborne. A well-prepared candidate will present with copies of the weather, NOTAM information, weight and balance data, fuel calculations, a flight plan, a flight log, and diversion information. So many candidates present with only some of this, which shows a lack of understanding that flying an aircraft in IMC is only half the battle. A candidate who can read the TAF and METAR but can't tell me how the weather shown relates to their DA/MDA at destination and diversion will get more than a raised eyebrow. To be honest, I'd be happy if just once in a while a candidate was able to tell me the difference between cloud base and cloud ceiling and how these are relevant. So remember, flying skills are important but they're only the start.

Altimetry

Using the wrong pressure setting is a sure way to fail your IRT. It is potentially unsafe and shows a lack of awareness, but is generally easy to get right if you follow a few basic rules:

1. Never set or check only one altimeter at a time. Whenever you change one then check/set the other at the same time and do a basic cross-check of readout. You might be flying flight levels, in which case the second altimeter will be on either Regional Pressure Setting (RPS) or QNH. If the RPS/QNH changes then you need only change the altimeter with this on, but you should get into the habit of cross-checking the main altimeter at the same time. This might mean nothing more than confirming that 1013 is set. If you're flying on RPS/QNH, then change both the main and second altimeters, of course, but don't let yourself get interrupted until you've

done both and checked that they read within 60ft[1] of each other.

2. Don't assume that ATC have given you a correct figure. ATC are highly reliable but they do occasionally make mistakes, so if they pass you a new pressure and it's not within a hectopascal or two of the current figure then question it.
3. If you have been cleared to a flight level and don't need to report passing an interim altitude then set the Standard Pressure Setting right away. There is some debate as to whether it's a good idea or not to set 1013 on the runway if you're given a flight level in your clearance, but the bottom line is that this is legal and if you do so you won't forget to do it later. Personally, I don't like to set it on the ground if to do so will give me a negative altitude so I set the QNH for the departure and then when doing the after take-off checks I change the main altimeter to 1013. Whatever you choose to do, don't leave it until you pass the transition altitude; this is not what the TA is for. Consider a day when the QNH is 980; a not uncommon occurrence in the UK. Say you are assigned FL40 and the TA is 3000ft. If you set 1013 as you pass the TA then you'll bust FL40, since 3000ft and FL40 are more or less the same on such a day[2]. There is thus nothing to be gained by waiting until you reach the transition altitude before setting the SPS, and there is everything to lose, so don't. Similarly, if you're cleared to descend from a flight level to an altitude then set the QNH (and check the MSA) before you descend. To illustrate, if the QNH is 980 and you have to adjust your level from FL40 to 3000ft you'll have a level bust if you fail to set the QNH prior to descending.
4. It is a requirement to get the weather before flying a procedure so that you know that it's within limits. What should you do if the QNH at your destination is different from that which you have set? The obvious answer is to set the new pressure, but that depends on where you are and to whom you're talking. If you're getting LARS or similar then you'll probably be on the RPS, in which case it's probably appropriate to set the destination QNH if you're reasonably nearby. If you're talking to an airfield ATSU, however, they will expect you to report your altitude based on their QNH. This causes two related problems: Let's say that you're flying from Airfield A to Airfield B. Fault (1) is to set QNH B while working ATC A. Fault (2) is to use correctly QNH A with ATC A but then forget to set QNH B after handover to ATC B.
5. Using QFE.

a) Very few pilots use QFE nowadays when flying IFR. The military still do, however, so if you fly into a military airfield you have a choice: either use QFE (for which you may have received little or no training, particularly recently), or ask to use QNH. It might at first sight seem like a simple choice to make, the assumption being that asking ATC if you can fly on QNH should make this possible, but their procedures, which might make sense on QFE, are often difficult to fly when converted to QNH. Procedure designers try to make procedures flyable so we round figures to usable round numbers. For civilian procedures this results in easy-to-fly altitudes of maybe 2500 or 3000ft, but for military procedures the altitudes equivalent to easy-to-fly heights of 2500 or 3000ft might be 2670 or 3230ft, which can be confusing.

b) If you fly on QNH when other aircraft are on QFE then your spatial awareness will suffer because it won't be immediately apparent what altitude other aircraft are at.

c) If you use QFE then you have to remember to set it on your main altimeter on final approach (leaving QNH on the second altimeter) and then reset QNH on the missed approach. Each time you reset an altimeter there is potential to make a mistake so remember always to check both altimeters every time you change the setting of either of them, and cross-check them afterwards to ensure that they make sense with respect to one another.

d) The safest option is not to fly on QFE unless you've received instruction in doing so.

6. Using RPS.

You should fly on the RPS if you are not working an airfield ATSU, are a fair distance from an airfield, and are not under terminal airspace. Exactly where and when you should do this is a matter of opinion, however the bottom line is this:

a) You need to be able to be certain of your obstacle and terrain clearance, so if you're flying at minimum altitude over the Welsh hills, for example, then using the RPS will enable you to be certain of this whereas using QNH will not.

b) You need to be able to tell how high you are relative to nearby aircraft. You'd not set RPS to fly at 2000ft over an airfield, for example, and for the same obvious reasons you'd not use it in the lateral vicinity of an aerodrome either; the difficulty is in assessing exactly when to swap between the two. Personally, I set RPS only when I'm a good few miles from anywhere and am concerned about obstacles or terrain clearance.

There is no guidance about what to set on the second altimeter when your main is set to the RPS. Logic would say that both altimeters should be set to it, but doing so can lead you to forget the last-known QNH. Whilst you should, of course, have written this down, there is nothing intrinsically wrong with putting the RPS on the main altimeter and the last-known QNH on the second. Unlike having 1013 set, however, it is not immediately obvious whether a figure is the QNH or the RPS, but remember that the RPS will almost always be lower than the QNH as this errs on the safe side. Please note that I am not advocating this option, merely pointing out that it's one way of doing things.

Altitude/level busts

There are several ways that you can bust your assigned level: from a climb, from a descent, or from the cruise. Climbing is the most problematic, from my experience; level busts most usually occur during departure when there's a lot to do. Descents are usually only a thousand feet or two, at least during an IRT, and will be accompanied only by a change of heading at the most, so it's easier to remember to level off. Level busts from the cruise occur due to a lack of attention and the only solution to this is to increase the speed of your scan and thus pick up incipient errors before they take root.

The other thing to watch out for is 'not below' altitudes. On some charts these are shown in bold and on others by underlining. In either case, the bottom line is that your height-keeping tolerance at such points is +100ft, -0ft. This effectively

---

1 PANS-OPS 8168 says 60ft. Operations manuals often say 50ft.

2 Taking a rough figure of 30ft per hectopascal, the altimeter difference is (1013-980)x30=990ft.

halves the normal limit, or doubles the required accuracy. My advice? Try to hold about 70 to 80ft above the required altitude; if you go low you have a bit more of a margin, and if you go a bit high then as long as you don't exceed 100ft for more than a few seconds you will usually get away with it (although you will be reprimanded for doing so). Given the choice, however, of a reprimand for going too high or a failure for going too low, I know what I'd choose.

Busting your assigned level is not always serious, so long as the error is not too much and is corrected within a reasonable time. In fact very few candidates go an entire test without exceeding 100ft discrepancy at some point. Most common is when a brief lack of attention creates low altitude coupled with high speed or vice versa, both of which are clearly pitch errors and are easily corrected. As important as correcting an exceedence, however, is making that correction smooth and not yanking the controls so as to wake up the examiner. Smoothness and accuracy are required in equal measure; no company will employ a pilot who stays within the prescribed limits but spills the passengers' champagne in doing so.

There is another common error related to height-keeping, and that's not checking the safety altitude when en route. It should be common sense, but you might be surprised to know how many pilots forget to do this. A smaller percentage remember to calculate the minimum safe flight level before take-off, and an even smaller number remember to add compensation for temperature error. Do these three and you'll score big marks.

Testing navaids

Why oh why did someone think it was no longer necessary for students to learn Morse! If I had a penny for every misidentified navaid I'd have a good few quid by now, yet this is surely basic knowledge. Just being able to distinguish 'TST' would be a start. So here's a message to all you IR students: learn Morse! Yes, I know that many aircraft do self-testing and won't show a needle unless the ident is correct. Yes, I know that many aircraft decode the Morse and display it, but this is not the case in many Cat A and older aircraft. And another thing: just because you may have a flashy modern bit of nav kit that does self-testing automatically, this does not absolve you of the need to know how to do the instrument checks yourself.

Descending in procedures

You can descend with a procedure only if you're within 5° of track or within half scale if you're on an ILS. However, if you're joining a beacon and flying outbound then so long as you're within 30° of the outbound track you can continue, and you're allowed to descend in this situation only before getting within 5°. The thing that catches people out, however, is that clearance must have been obtained to descend with the procedure; you'd not descend in the cruise without clearance but pilots sometimes get so focused on flying the procedure that they start to descend outbound before being so cleared.

What if you're being vectored by ATC and find yourself at say 2000ft, following a similar track to the full procedure, and what if the procedure altitude for your position would be 2000ft, i.e. not below? Are you allowed ±100ft or must you treat your vectored altitude as not below too? It does seem anomalous that one should require greater accuracy than the other even though the track may be in the same place, but the key point is that you don't necessarily know that it is indeed the same place and thus the normal rules of vectoring apply, i.e. your accuracy requirement is ±100ft. Bear in mind that when you're being vectored, ATC will refer to their radar manoeuvring chart and will only take you as low as is safe.

Note that it is not a requirement to be within 100ft above step fix altitudes; these are minimum altitudes at the points in question. Instead you should aim to be within ±100ft of the advisory altitudes shown on the plate, but this is not a pass/fail requirement and is simply to make the descent continuous and smooth. Adhering to the advisory altitudes also means that the approach will be stabilised, which is a requirement for larger aircraft and is highly recommended for others. If you get used to making stabilised approaches in this manner then come the day when CDFA[3] procedures are mandatory you'll be ahead of the game.

Action at the MAPt

This one annoys me. Imagine the scene: you're in IMC and have little knowledge of the obstacle and terrain environment, and you get to the MAPt but see nothing. Would your action not be to use as much power as is available and pull the speed back to optimum? Of course it would, so why do candidates on IRTs not do so simply because they think that the examiner can see the ground? If you're told to go around if not visual then if you're not visual you need to go around, without delay, and using the standard technique. Obvious, really.

And finally

The IRT is not an exam designed to catch you out, and you'll not be put up for it if your instructor doesn't think you're up to standard. You know in advance that you'll not be visual when you get to your destination, but everything else is how it will be in reality after you've passed so use the opportunity for some practice. If a decision needs making then make it. If you have to change the order of events to suit ATC then do so. If things aren't working out then talk to ATC and do something safe; at least you'll be doing something. The very worst thing you can do is give up; remember that you're in a real aircraft in real airspace and probably in real IMC; this is no time for indecision as you really need to land, so make it work, do what you have to do, and if the examiner wants to see more he'll soon tell you. Candidates who make a mess of something but talk to ATC and sort it out get as many good points from me as those who dither but do everything else right. When you're on test think of yourself as the captain and the examiner as a passenger for whom you are responsible and you'll find the test much easier to cope with.

Oh, and in the debrief, don't argue; it won't work. No really, don't.

[3] Continuous Descent Final Approach.

From analogue to glass and back again

Anthony Bowles explains what for many would seem a surprising decision- replacing his Cirrus with a much older design of plane

In 2007, after owning a Grumman Tiger for some 20 years, I bought a Cirrus SR22. I discussed this purchase at some length in chapter 4 Section 2 of 'the Book' aka '***European Instrument Pilot***' published by ***PPL/IR Europe*** in 2008, but a brief recapitulation here may be in order. For some twenty years, my milk run was between Carlisle and Elstree, often with my growing family. The AA5 had served me well (and continues to so serve a fellow ***PPL/IR Europe*** member), but in the winter months, headwinds were sometimes strong which made the journey tediously long and this was particularly the case in 2005. By then my 'cost centres' as Mrs Moneypenny (of FT fame and pilot as well) refers to her children, were showing signs of becoming 'earning centres' in their own right, and this welcome change would release funds which could be diverted to aviation use. The main requirement was for a faster aircraft. I considered and dismissed a Mooney, mainly because then as now, there was no UK service centre. I also thought about a TB21, but decided against this because the cruising speed increase was relatively modest.

I had a test flight in a SR22 in November 2006 and was immediately captivated by the clean lines of the aircraft, the glass cockpit and spacious cabin, and of course by the very significant increase in cruising speed from around 125 kts in the Tiger to 165 Kts in the Cirrus. I did a couple of further flights, including trying out an ILS approach, and subsequently bought a SR22 which arrived in early April 2007. There is no doubt that the Cirrus revolutionized my flying; the milk run time to London was reduced by a third to an hour and a half or less, and the aircraft would climb comfortably to FL100 in around 12 minutes. I immediately liked the glass cockpit, all the basic flying data and more on the PFD, while the moving map display on the MFD was a revelation to someone who had previously only had a basic GPS. Adding the Jeppesen chart display where the position of the aircraft on the approach is displayed in real time was a joy. Touring changed as well; with my still air range more than doubled, trips which previously would have been too far or long to undertake in reasonable comfort became doable. Soon after I acquired the aircraft in 2007 we went to Morocco. Eastern Greece and Northern Scandinavia followed in 2008, and then eastern Europe in 2009. These were welcome destinations for trips of a few days duration. Quick overnight trips to the continent, never that easy in the Tiger when the starting point is Carlisle, became much more attractive. My wife in particular became very fond of the Cirrus's comfort and needed little persuasion to come with me.

Anthony Bowles' glass cockpit equipped Cirrus

Cirrus niggles

So, why this year have I sold the Cirrus, and reverted back to an older design of aircraft, and what were the niggles which prompted it? As with many things in life, it was not one big issue but a number of little ones, which eventually created momentum for further change. First, and I think most important in the final decision was the lack of a manual trim. The Cirrus has an electric 'cocked hat' switch on the side positioned control stick, controlling both fore and aft elevator trim and left to right aileron trim. In elevator trim mode, it is quite coarse, with even the slightest blip on the control producing a significant trim change. I was fortunate in never having an electrical trim failure but it occurred to me on several occasions that if I had experienced this, hand flying the aircraft would have been hard work. I always used to hand fly the Tiger for the climb and descent and only engage the somewhat basic autopilot for the cruise. I adopted a similar practice on the Cirrus; climbing after departure, especially if light weight, was always an exhilarating experience but levelling off at cruise altitude and establishing precise straight and level flight required infinite adjustment. This was not helped by the lack of aerodynamic feedback through the controls, (something to do with the spring linkage between the elevator and rudder). Often, particularly if there were other cockpit tasks to be done, it was easier to engage the autopilot and let it sort the problem out, but this worried me as I thought it was really something I should be able to do without mechanical assistance, and get it right every time. I would achieve it with sustained perseverance, or so I thought.

Different problems became apparent at the approach phase of my milk run. Whether it was being ditched at Daventry, or more usually, helpfully transferred to Luton Approach, the requirement to lose height rapidly in the London TMA caused engine management problems especially in cold air. Reducing engine power by enough to give a 1000 ft/min rate of descent expected by the controller without over cooling the engine could result in too high an IAS, particularly on days with turbulence when it could be difficult to keep the IAS within the green sector. Dropping the

first stage of flap was not practical as the flap limiting speed is a relatively low 119 kts. I did try this once as an experiment but it was not successful. The power reduction to keep rate of descent up and IAS below flap limiting speed was too great and lead to over cooling of the engine, quite apart from the controller not understanding why I had suddenly lost so much airspeed. Similar problems occurred on IFR approaches to large airfields where there is a need to keep the approach speed up. Yes, if the throttle is pulled right back, the speed will decay but it makes for inelegant approach management and causes difficulties in establishing a stabilised ILS approach, apart from being bad for the engine. The laminar wing of the Cirrus is marvellously efficient but you do, on occasions, need the drag factor as well.

Cessna comparison

Last summer I had the opportunity to join Jim Thorpe and a couple of other friends and fly his Cessna 421 back from Montreal. Jim had been down to Brazil and by the time he arrived in Montreal on his return journey, he and the other two pilots seemed happy to let me occupy the P1 seat albeit with Jim keeping a very beady eye on me from the right hand seat. He had emailed me a few days before departure warning me that the autopilot was playing up so hand flying would need to be polished up. In the event, the autopilot behaved but I adopted my usual technique of hand flying up to cruising level. This was a revelation in the Cessna, with precise manual trim control available backed up by a slow geared electric trim; arrive at cruising height, adjust the power to what is required, wait until the aircraft is stabilised and then trim out the aerodynamic forces. I suddenly realized what I had been missing over these past few years; food for thought on my return to Carlisle. There were some other factors as well. My wife and I increasingly like to go away for a weekend with a couple of friends. As is well known, a four seater aircraft with luggage is effectively a two seater, especially if life jackets and other across the water equipment is carried. We occasionally took our labradors flying in the Tiger, but never in the Cirrus because getting them into the cockpit would have been too difficult and they would not have appreciated being relegated to the boot. The glass cockpit was neat, but there was no room for a well placed secondary VOR/ILS display in the event of any PFD failure. All little things, but as I said earlier, they begin to add up. I also found the lack of a positive door lock unsatisfactory, particularly when the doors popped open in flight. Despite several attempts at adjusting these, we never entirely cured the problem and it was disconcerting for the passengers when it happened, often necessitating a diversion to fix the problem.

Bonanza

The one aircraft I did not consider in 2006 when evaluating a change from the Tiger was a Bonanza. Beech aircraft have in my aviation lifetime always been considered the Rolls Royce of light aircraft, and I had previously associated this with cost beyond my means. However by 2010, my 'cost centres' had completed the transition into independent earning entities, so I felt I should seriously consider a Bonanza as it was the only light single engined aircraft with a cruise speed approaching that of a SR22. After my trans-Atlantic flight in the 421, I did briefly consider a twin until my wife brought me back to reality. Desktop studies followed, which showed that an A36 would give the required 4 people and weekend baggage capacity and then member Will Gray was kind enough to give me a test flight in his Bonanza. That flight convinced me this was the route to follow. In Chairman's Corner of IP85, I described the acquisition of my Bonanza. Sourced from Germany, I bought it from two brothers who also had a Duke which they flew with a professional pilot and they felt that the Bonanza had become surplus to their requirements. A 1992 model, its avionics were ripe for upgrading and having enjoyed the modern SR22 avionics, I had some firm ideas in this department.

Avionics upgrades

The King KCS55-A HSI was replaced with a Sandel 3500 EHSI; the earlier Sandel 3308 had some problems but these were supposedly all now sorted and it would interface with the King gyro compass. The main advantage of this Sandel unit was that it would give me autoslew driven from either of two Garmin 430 units I also installed. The Sandel unit also allowed two separate RMI displays, selectable in flight from the second 430 GPS, either VOR or ADF. In practice, I couple one RMI to VOR1 and the other to the ADF and this seems to work well. Early on, I decided to replace the King KX165/KX155 nav/comm installation with twin Garmin 430's which had proved reliable in the Cirrus. This immediately raised the thorny (and expensive) question of a major mod approval from EASA. It strikes me as incongruous why this should be required when I am merely duplicating a radio installation which is only subject to minor mod approval. However, the benefits of a duplicate installation are considerable; flight plans and waypoints can be cross-filled painlessly between the two sets, as well as providing the duplicate traditional VHF comm and navigation backup, so the bullet was bitten. The bonus is that the final form of the paperwork will approve the aircraft for PRNAV operations. I did consider, but not for very long, whether I should install any form of PFD. Aspen in various permutations was one possibility and the Garmin 500 another. However the expense and certification problems to be overcome were very considerable and at the back of my mind was a realization that although a PFD/MFD cockpit layout of the type I had in my Cirrus was very desirable in a number of respects, I had found that reversion to an analogue cockpit had been a rather enjoyable experience. Perhaps older pilots prefer old instrumentation. It seemed to me that most of the benefits of a glass cockpit could be obtained by a judicious combination of newer instrumentation with the traditional 'six pack' display. Installing the Sandel EHSI gave me most of the benefits of a PFD, with more flexibility in terms of RMI selection and it really only needed some sort of MFD display to give me most of the advantages of the Cirrus MFD.

MFD selection

There were two competitors for the MFD; the Garmin GMX200, which succeeded the earlier MX20, and the Avidyne EX500/600 display. With previous satisfactory experience of Avidyne products, I opted for the EX600. As well as the basic rangeable moving map and Jeppesen chart displays, I installed satellite weather and traffic display options which had proved to be so useful in the Cirrus. The satellite weather captures metars and tafs for the flight planned route; metars are displayed as coloured flags on the moving map and in decoded text form on another page from which coded tafs are also available. On longer flights, this enables weather trends to be easily seen, and if necessary, early diversion tactics adopted. The technology also displays, in near real time, radar rainfall displays colour coded for intensity over a large part of Europe. I find a two fold use of this facility. Firstly, it clearly indicates where the showers are in a convective airflow, and with the older Stormscope where thunderstorms are likely. Secondly, when more general frontal rain is shown, it gives a good indication of likely icing conditions. Of

course the mark 1 eyeball can see convective showers when flying in generally VFR conditions, but this is not so practical when trying to dodge convective cells embedded in more benign cloud. The software also displays a recent IR satellite view of the terrain but I find the contrast available on this picture not sufficiently large to be of significant benefit. For some waypoints, upper wind forecasts may be available, but then you will probably have obtained this information from elsewhere before setting out. The aircraft came with a WX1000 Stormscope which seems reliable enough given that on the whole in the UK, thunderstorms are a relatively unusual event. Yes, of course it would be nice to have the storm data superimposed on the moving map, but this can be done almost as well by eye.

Traffic advisory

I pondered about putting in a traffic warning system. For IFR flight in controlled airspace it should not be necessary, however for flying around beneath the London TMA in murky VMC, it is a real potential lifesaver. The bonus on the system I installed, compared to what I had on the Cirrus, is that as well as relative height and direction, it also displays the squawk of the other nearby aircraft so one can instantly see whether the potential conflict is receiving some form of traffic service from a nearby facility, or whether it is uncontrolled traffic. As a bonus, when any potential conflict arises, this is also displayed on the Sandel EHSI and at the same time, an aural warning is given. This technology does not obviate the need for a good visual lookout, not least because non transponding aircraft will not be displayed, but it does help to focus that lookout. The final improvement on the avionics side was to replace the old King audio control panel with a modern PMA unit. The audio quality of these units is outstanding. I purchased one with the Bluetooth option which can pair with a mobile telephone without a physical wire connection, allowing a crystal clear telephone conversation through the headset (on the ground of course). Ipods and such like can be plugged in for music on longer flights, and the unit programmed to mute this on ATC and/or intercom transmissions.

Tip tanks an GAMI injectors

The airframe and recently overhauled engine were in good condition and I made only two changes in these departments. Firstly, on the recommendation of Will Gray, I installed Osborne tip tanks giving an additional 150 litres fuel capacity. This gives an extra three hours endurance but also in these days of increasingly varied fuel prices around the country, provides a useful facility to tanker cheaper fuel when available. Some care however must be taken, while the MTOW goes up by the weight of the tip tank fuel, MLW does not. Also C of G limitations mean that you have to take care in the placement of your passengers and baggage when carrying additional fuel. The second change was to install GAMIjectors, probably the cheapest and most cost effective modification of all. It took me a little while to fathom out the EDM 800 Engine analyser display, by no means as easy as the Cirrus engine management page on the MFD, but now that I have more or less done so, I can see what a useful instrument it is and have just about mastered lean of peak engine operation in the cruise.

New wine into old skins?

So what have I done in the last six months? I have exchanged a slick modern aircraft with all 'mod-cons' for a middle aged version of an aircraft designed fifty years or more ago and modernised its avionics. New wine into old bottles I hear people say? I do not believe so. That a basic design can survive largely unchanged for half a century speaks volumes about the efficiency and safety of that design. Of course, it is not quite as efficient as the Cirrus airframe and I dare say that a Cirrus with wheels that tuck up would be faster still. It does not have the aircraft parachute but then in some respects, I believe that encourages rash piloting. For my mission, I think I now have a near perfect aircraft. It can take four people and luggage for a weekend trip, it can take two labradors for a walk on a Scottish island in great comfort for all, and it can take my wife and me non-stop for upwards of 1,300 nm if we can survive sitting still for that long. It has the best of old analogue cockpit instrumentation combined with modern electronic aids. I write this on return from a nine day tour to various places around the Baltic having experienced most types of weather from fair to foul. It was a good trip; hand flown departures and approaches with autopilot on for most of the cruise section. Stability in turbulent conditions was better in the Bonanza than in the Cirrus. Of particular note is the ability to deploy approach flaps, and drop the gear as well if necessary, at relatively high airspeed slowing the aircraft down and providing a fast descent rate without overcooling the engine. This advantage was shown off well when one busy airport wanted to convert our high downwind instrument approach into a short visual approach; all very straightforward although a little taxing on our ears with the pressure changes. In a Cirrus, it would have been a much less elegant manoeuvre and certainly not a comfortable one, but maybe that is a reflection on my piloting ability! Leaning to 50º LOP gave me around 163 kts TAS in the Cirrus at around 10,000 ft, while the comparable figure in the Bonanza was around 157 Kt TAS with marginally lower fuel consumption in the cruise. Climb rate seems noticeably better in the Cirrus.

Anthony's more traditional Bonanza

Porsche vs Bentley

What do I miss from the Cirrus? The TKS de-icing was certainly useful on occasions of inadvertent icing encounter but in some respects, its presence encourages over reliance on what is a 'get out of trouble card'. The Cirrus cabin is exceptionally comfortable for the pilot and co-pilot. I miss the digital wind readout on the PFD; yes, the wind data is available on the Garmin 430 but requires pushing of buttons and inputting IAS and OAT, so not nearly as convenient. Both are lovely aircraft in their way. In car terms, it is said that a Cirrus is equivalent to a Porsche while a Bonanza equates to a Bentley and this analogy sums up the differences between the two well. I have enjoyed my Porsche flying but the Bentley now suits me better.

Pilots' talk

Compiled By Sahib Bleher

Garmin's GTX 23 ES creates affordable route to ADS-B compliance

Garmin has announced the launch of the GTX 23 ES remote transponder, a new remote-mounted Mode-S extended squitter transponder for light aircraft. The GTX 23 ES is designed for use with the G3X™ glass cockpit. Garmin has also announced that it is lowering the price of the G3X to make it affordable to a larger number of customers. The GTX 23 ES remote transponder delivers 250 watts of power output, auto standby and a Traffic Information Services (TIS) interface. Using GPS-referenced positioning information, the extended squitter technology in the GTX 23 ES positions it for ADS-B compliance and enables it to automatically transmit more accurate, and more useful, traffic surveillance data – including aircraft flight ID, position, altitude, velocity, climb/descent, and heading information. Traditional Mode S and Mode C transponders can only broadcast altitude, and therefore require ground-based radar to correlate and identify the aircraft's position.

Avidyne launches 'plug & play' stack and synthetic vision upgrade

Avidyne introduced a full panel-mounted, plug-and-play replacement avionics stack for general aviation aircraft at EAA AirVenture. The stack includes the IFD540 FMS/GPS/ Navigation/ Communication system with touch-screen controls, the AMX240 stereo audio panel with marker beacon, the AXP340 Mode S extended-squitter transponder, and the attitude-based DFC90 digital autopilot—although the autopilot requires you also have an Aspen Evolution PFD or an Avidyne Entegra PFD. The IFD540 is sized to replace the popular Garmin GNS 530 and the AXP340 is a slide-in replacement for the popular KT76A and KT78A transponders. Ease of installation will provide significant cost savings for buyers, the company said. The transponder provides 'ADS-B Out' capabilities.

Avidyne also announced that their DFC90 digital flight control system is now available for the Cessna 182, Beechcraft Bonanza and Beechcraft Baron (with the same PFD requirement). Certification for Piper Matrix and Mirage aircraft is expected soon. The company also says synthetic vision will be included in the next upgrade to Entegra Release 9. The upgrade, 9.3, is expected to receive final FAA certification later this year. It will also provide support for three-screen R9 installations and on-board weather radar.

BAE unveils helicopter 'brownout' landing solution

A system to help helicopter pilots see in degraded visual environments has been showcased in England by BAE-UK. BLAST - Brownout Landing Aid System Technology - was developed by BAE Systems-UK using off-the-shelf technology from fielded systems. Helicopter brownout occurs when a pilot loses visual references due to dust or sand re-circulating during takeoff or landing, a major problem in arid terrains. BAE said it tested BLAST during a two-week campaign in April at the Yuma Proving Grounds in Arizona. Fitted on a Bell UH-1 test-bed helicopter, the system demonstrated effective real-time 3-D visual landing zone representation with overlaid flight symbology, providing information to the pilot in diminished visibility conditions such as brownouts, whiteouts, darkness and adverse weather. The flight symbology provides all relevant flight critical information, allowing the pilot to easily judge the height, speed and drift of the aircraft.

New style spinner cover to fit all light aircraft

Aircraft Spruce is now stocking the ProPastie Spinner Cover, a new-style spinner cover designed to minimise snow, ice, and water from lying on the aircraft's propeller hub and bearings, and potentially freezing inside the spinner. The correct way to position a propeller in the winter is to have a blade vertical on the bottom to enable water to run off, but at the same time this allows water, snow and ice to sit on the propeller hub and bearings, with potentially disastrous effects should any water leak into the propeller hub. PropPastie also prevents blowing snow from ending up inside the spinner and causing a detrimental imbalance. The cover is designed to withstand all but the most extreme temperatures and has remained in position during testing in up to 51 mph gusts. The material used stiffens in cold temperatures and this, in combination with Velcro, holds PropPastie securely in place.

Remote control towers

Two airports in northern Sweden are set to become the first test sites for remotely operated control towers. The system, which is being developed by Saab, will consist of an 82-foot-tall structure topped by a bank of cameras that will beam a 360-degree panoramic high-definition image to a control centre located miles away. The array also includes microphones that transmit stereo sound from the airfield, meteorological sensors, and a light-gun signal that can be operated remotely. Centre controllers will sit in the middle of a 360-degree wraparound screen, and will be able to zoom and pan the images. The system aims to save on costs by consolidating services for smaller airports. The two towers in Sweden are expected to go online next year. The system's sophisticated interface will provide controllers with improved situational awareness compared to today's analogue towers, according to Saab. The images employ several types of image enhancement, including the ability to label moving objects, impose a geographical overlay during low visibility, and 'radar and video sensor fusion.' A demo project was successfully concluded in 2009, according to Saab.

A new laser threat?

Wicked Lasers claims its new hand-held laser has an 85-mile range, is 8,000 times brighter than the sun, and is the '*world's brightest laser you can legally own.*' In other words, the device may be completely useless outside of a lab, but is apparently being marketed to the public. The cost of the new 'S3 Krypton Series' laser is $1,000. According to one review, a previous model was '*dangerous*' and only useful for '*irresponsible, reckless activities.*' This new model is twenty times brighter and in the words of the same reviewer, is '*twenty times as awesome.*' Early this year, the same company released a sub-$300 laser capable of near-instant close-range retinal damage. As for who the new laser appeals to, a review by Gizmodo.com, a website for technophiles, described the laser with these words: '*You can't do anything with it*' and '*I can't help but love it.*' Users are cautioned not to look at the beam, not to look at the spot and not to look at light reflected from the beam. After an increase the number of pilots reporting incidents with lasers, the FAA in June announced new civil fines for laser misuse, topping out at $11,000.

Pilot's crusade against toxic cabin air

John Hoyte flew for 30 years and says chronic fatigue and memory loss caused by toxins circulated in the air systems of the aircraft he flew forced him to walk away at the age of 49. Now 55, Hoyte wants to lobby the government to force airlines to recognise a link between toxic fumes on their aircraft and negative health effects for pilots. He has set up the Aerotoxic Association based on his belief that exposure to fumes in airliners caused him to suffer neurological damage. Hoyte's belief is generally unsupported by the industry and may be challenged by some studies. According to an Independent Committee on Toxicity, 'fume events' take place on roughly one out of every 2,000 flights aboard jet airliners. A review concluded in 2007 that a link between cabin air and pilot health could not be established. The US Department of Transportation's position is that there is no evidence for pollutants in the cabin exceeding guidelines for health and safety standards. The British Air Line Pilots' Association believes further testing should be conducted. Hoyte says he has been tested along with 26 other pilots as part of a university study and all the participants showed effects from exposure to toxins. He says that after the study he was told he suffered from aerotoxic syndrome caused by breathing oil fumes. A coming University of Amsterdam study will sample 30 crew members with neurological complaints to see if it can establish evidence of a link to toxins in cabin air.

As for non-commercial jets, an investigation that grounded the fleet of F-22 Raptors back in May 'has since expanded to include all aspects of the aircraft,' according to the Air Force Times, leaving deliveries on hold and pilots hoping for simulator time. There are less than 160 Raptors deployed and two F-22 simulators, one at Langley and another at Tyndall Air Force Base. The actual jets have been grounded because they appear to be poisoning their pilots. Tests have found multiple toxins in the blood of Raptor pilots affected by symptoms similar to hypoxia while flying the jets. The Air Force hasn't been able to source the problem, leading to a cascade of complications. Blood tests turned up chemicals from oil fumes, burned antifreeze and propane, according to the Air Force Times. '*There is a lot of nasty stuff getting pumped into the pilots' bloodstreams through what they're breathing from that OBOGS [On-Board Oxygen Generation System]*', one former F-22 pilot said.

Passenger sees his home being burgled from the air

Two men have been charged with residential burglary and theft of property after being spotted by a homeowner who saw the men taking items from his house while he was flying as a first-time passenger in a 1957 Cessna 172. During the flight passenger Steven Lynn asked his friend, pilot David Hudson, if they could fly over Lynn's house so that he could see it from the airplane. They found the house and saw what appeared to be two men taking things from the home and loading them in a vehicle. While still airborne, Lynn first called his uncle (presumably via cell phone) and told him to stop by the house and see what was going on. When the uncle arrived, the men took off. It appears Lynn then called 911 from the aircraft, reported the burglary, tracked the vehicle, and fed on-the-ground law enforcement with the turn-by-turn movements of the suspects. Soon thereafter, the two male suspects were stopped and apprehended by a state trooper. Lynn told local news station KAIT that '*when we saw the cops pull up it was just pure excitement.*' As for his first-time flight, Lynn said, '*It was awesome ... I was enjoying it until that happened.*' As for next time, '*I'll be nervous until I see there's nobody there.*'

LoPresti debuts 'flat-free' aircraft tyres

LoPresti Aviation Engineering introduced their new 'NeverFlat Lifesaver' aircraft tyres recently at the Cirrus Owners and Pilots Association annual fly-in in Colorado Springs. '*We named it the NeverFlat because that's what it does - it never goes flat,*' RJ Siegel, LoPresti's CEO said. It's the first aviation tyre with a wound carbon fibre band embedded in the circumference of the tyre making it virtually impossible to puncture as an unpressurised system with load and suspension characteristics tailored to the aircraft. The new main tyres are expected to be available to Cirrus SR20 and SR22 owners by the end of the year, with a nose wheel tyre to follow suit. The tyres are specifically designed for individual aircraft, so the Cirrus tyres can only be used on the SR20 and SR22. Cessna jets and possibly the 172 are next in the company's plans.

EASA railroads its N-reg attack through parliament

After much uncertainty, the European Parliament approved EASA-FCL despite a last-minute attempt to have it sent back to EASA for redrafting because of unresolved issues surrounding third-country licences. The vote was very close – 16 against approval, 22 for, a victory for Commissioners. The European Parliament only had the option to accept all of EASA's proposals or reject them entirely. EASA claims the known shortcomings in its regulation can be overcome by a bilateral agreement between Europe and the US, but whether and when this might happen remains to be seen. The future of the N register, favoured not least because of its attainable full IR, remains in the balance once more. EASA has also published its final proposals on Ops. These no longer require a single engine aircraft to be able to continue climbing after an engine failure on take-off! Maintaining this rule would have made for some interesting rules on compliance. Helicopters flying over water do not need to be fitted with floats if they don't venture beyond 50 miles from land, and a PLB is acceptable instead of a fixed ELT for aircraft up to six seats. However, helicopters will now need to have heated pitot tubes fitted in order to be permitted to fly at night. Oxygen requirements are also tightened but not as much as was feared. The carriage of dangerous goods regulations applying to commercial operations now also seem to be have been extended to private flights, effectively meaning that we all have to purchase a costly document without any relevance to us, and finally, the visibility minima for IFR take-offs have been reduced.

Pilot thought F-16s were admiring her cub

A Chicago-area pilot who says she thought the pilots of a pair of F-16s circling her were just admiring her award-winning 1941 Piper Cub will undoubtedly get a written explanation of why they were really there. Myrtle Rose, 75, admits she didn't check NOTAMs or even turn on the radio in the blue-and-yellow Cub she calls Winston when she went for a hop from her fly-in community on Aug. 5 and strayed into a presidential TFR. When the fighters appeared, it apparently never occurred to her they might be on official business. '*I thought, 'Oh, well, they're just looking at how cute the Cub is,*' she told The Associated Press. It's not clear whether the fighter jocks attempted to escort her to an airport but it may not have done any good. Rose headed home and the airstrip in the affluent Chicago suburb of South Barrington soon filled with police cars.

New aircraft deliveries continue to slide

The general aviation industry's rebound continues to sputter, according to first-half shipment numbers released this afternoon by the General Aviation Manufacturers Association. In the first six months of the year, total worldwide GA airplane shipments fell 15.5 per cent from the first half of 2010, while total billings were down 22.3 per cent, to $7.3 billion. Business jet deliveries in the period totalled 261 aircraft, a decrease of 26.5 per cent from the 355 handed over in the first six months of last year. The decrease in the turboprop category was not as severe, with shipments down 8.9 per cent from 157 in the first half of 2010 to 143 units over the same period this year.

Pilot Logbook for Android

Logbook Pro for Android is a new application on the Android Market to keep track of certificates, ratings, medicals, flight reviews, historical data, and flights and view detailed and extensive reports. The download is free, but there is a charge for 'cloud synchronisation' of devices, e.g. smartphone and PC, over the internet.

Olympic airspace podcast launched

A new aviation safety podcast has been launched by the CAA in conjunction with the Sony Award-winning Flaps podcast team. Known as 'Airspace', the podcast initially forms part of the Airspace & Safety initiative (ASI) work to inform the aviation community of changes resulting from next year's London 2012 Olympics, but the podcast will also feature other safety and airspace issues. The podcast's first edition looks at the airspace restrictions the Government will be putting in place during the Olympics. It can be downloaded from www.soundcloud.com/flapspodcast/caa-airspace. The issues covered in the podcast include how the restrictions will be put in place; how to use the restricted zone; and details of the enhanced air traffic service that will be in place to assist pilots. Further Airspace podcasts will follow later this year as part of the ASI Olympics programme and will feature topics including how to use the enhanced flight planning system for the restricted zone and what to do if you're intercepted by a military aircraft during the Games.

CAA changes to Glasgow and Norwich control areas

Measures to enhance the safety of air traffic control operations in the vicinity of Glasgow Airport will be introduced by the UK CAA after an incident involving a glider and a civil air transport aircraft within the Glasgow CTA. Following the incident, the CAA considers it necessary to temporarily reclassify the Glasgow CTA from Class E to Class D as an interim safety enhancement. This will result in the creation of a 'known traffic environment' for which Glasgow Airport's air traffic control (ATC) unit will continue to act as Controlling Authority. Under the interim arrangements, effective from 16th September and published by Notam but not reflected in the AIP or aeronautical charts, there will be no changes to the current lateral limits, but the CTA base will rise from 2500ft amsl to 3000ft amsl. Published arrival, instrument approach and instrument departure procedures serving Glasgow Airport will P 19►

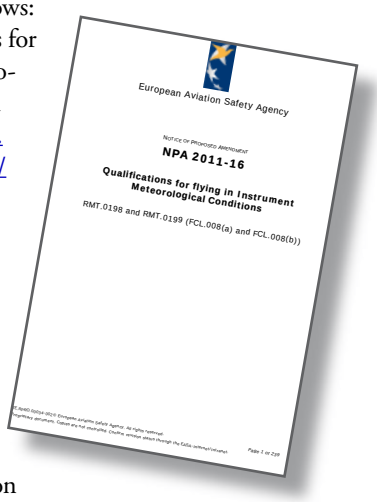
Notes to Members

By Stephen Niechcial

EASA's proposals for IR training for PPLs

EASA's long awaited proposals for instrument training have been published for consultation as follows:

- NPA-2011-16 'Qualifications for flying in Instrument Meteorological Conditions' on EASA website. See: http://hub.easa.europa.eu/crt/docs/viewnpa/id_135
- To place comments please logon at http://hub.easa.europa.eu/crt/
- For further information please contact Rulemaking Process Support at RPS@easa.europa.eu


European Aviation Safety Agency

NPA 2011-16

Qualifications for flying in Instrument Meteorological Conditions

RMT.0198 and RMT.0199 (FCL.008(a) and FCL.008(b))

These proposals represent the biggest opportunity in a generation to open up IFR flying to a larger number of PPLs. Elsewhere in this edition, Jim Thorpe who has been our main contributor to their design explains them and why we all need to respond to the consultation if we want them to come into being.

I learnt about (instrument) flying from that

This edition sees what I hope will be the first of a new series 'I learnt about (instrument) flying from that.' Almost all of us at one time or another will have been in a position where we have made a mistake and/or found ourselves in a tricky situation whilst instrument flying. These incidents are both very interesting reading and excellent instruction to help others fly more safely. ***PPL/IR Europe*** members to date have unfortunately been very coy in coming forward, and it's taken me six months to get this first article .Please do produce your own story. I am very happy to anonymise material, or even receive it anonymously via a third party if that helps.

◄ P 18

remain unchanged. The CAA has also approved a proposal from the operators of Norwich International Airport to establish a Controlled Airspace structure in the vicinity of the airport. The new airspace arrangements will consist of a Control Zone (CTR) and a Control Area (CTA), to protect arriving and departing aircraft and will be implemented from 8 March 2012.

PPL/IR Europe's group trip to Roskilde, Denmark September 2011

By Sarah Richards

With a strong tail wind and good visibility, those departing from the UK and Rotterdam on Friday 16th September, enjoyed near perfect flying conditions to Roskilde. For the group of 18 odd pilots and passengers, the sightseeing tour began with the numerous dykes of Holland and the fantastic bridges and sea dykes of Denmark. Even our own Brunel would have had to take his hat off to Dissing+Weitling who designed the Great Belt Bridge. This spans Zealand and Funen, and remains the world's longest suspension bridge of 1,624 metres; an immense feat when viewed from 7,500ft. Bridges and wind turbines aside, marine evolution could be witnessed from the air in the form of multiple crescent shaped sandbanks emerging from a sparkling sea some of which now impressively support small communities and airstrips.

Post touchdown, the Roskilde 2011 trip benefitted from all the advanced planning one would expect of ***PPL/IR Europe***. Thanks are owed to Flemming Jensen, ***PPL/IR Europe*** member and resident of Copenhagen, who welcomed us at EKRK airport clocking all 21 of us in, and rolling out with precision a schedule of guided tours plus a fest of traditional foods including herring, beer and aquavit – the first drink of the morning for many Danes, or so we were informed!

A late Friday afternoon stroll around town took several of us to the UNESCO world heritage Roskilde Cathedral. This was a delight for most who ventured through the high, gold coloured portals, embossed with Munch like images and the point of entry to a world of contrasts; ancient and modern, simplicity of décor against the majestic richness of sarcophaguses bearing the remains of monarchs dating back to Harald Bluetooth AD 986. Yet the atmosphere of solemnity was routinely interrupted by the playful mechanical clock figures which sprang into action as the chimes announced the passing of another hour. Exquisitely carved wooden frescos told the stories of the New and Old Testaments with imagery that made language redundant. Lightness of materials, glass and wrought iron work banded together in a uniqueness of style is a distant cry from the usual dank and musty smelling Cathedrals of northern Europe. All who entered will take home lasting memories of this red brick monument completed in 1280 with its curved spires and ring of golden suns.

PPL/IR Europe tours are famous for combining the camaraderie of aviation enthusiasts, enjoyment of fine foods/wine and exploring places of interest. On this occasion, the tours delivered in spades starting with a traditional Saturday lunch of 'smørrebrød' at the popular restaurant of Kanal Caféen in the heart of Copenhagen followed by sightseeing.

Copenhagen was founded in 1167 as a small fortified community which flourished as a trading centre to become Scandinavia's

capital city. Initially called 'Købmændenes Havn', the Harbour of the Merchants, it was later renamed København. Today, with a population of around 1.8 million it remains renowned for the stories of Hans Christian Andersen. All of us will be familiar with the ugly ducking which was transformed into a beautiful swan (the national bird of Denmark) and the Little Mermaid. Exploring Copenhagen's Nordic culture of art, theatre and politics was restricted by time, but gave a taster of its history and life in the city today. Information on tattoo removal can be found at www.tattoosarenolongerus.com!

Our next stop was the Louisiana Museum of Modern Art which opened in 1958 and over successive years has developed as a meeting place for people of all ages and where art interacts with nature. Located in exquisite grounds overlooking northern Zealand, and with stunning views across the Øresund, it is the home to works of celebrated artists such as Giacometti, Picasso, Andy Warhol, Henry Moore and others. Many of these works are displayed externally in the spacious gardens. Modern designs translated to intriguing articles for purchase in the extensive subterranean shopping area from which many of us had to be prised.

We returned to Roskilde in time for pre-supper drinks and a fantastic meal in the town centre's old Restaurant Raadhuskaelderen. After putting the world to rights over excellent food and more wine, we turned in for the night.

Our Sunday visit to the Viking Museum in Roskilde was an education in boat building, salvage, preservation and restoration, the outcome of which tell the story of life at sea for otherwise farm dwellers. The adventures of these sea conquerors remain compelling to all generations, and to such an extent that a replica of a large Viking ship was realised. The Sea Stallion from Glendalough is the reconstruction of the 30 metre longship Skuldelev 2. It was built between 2001-2004 from retrieved ancient designs carved in stone and using tools generated from the signature marks left in the wood of salvaged planks. Once launched, the Sea Stallion's final test was to cross the seas to Dublin in 2007/8 navigated by a crew of enthusiasts. However, enthusiasm itself was insufficient for enduring the rough seas and four crew members had to be plucked off the boat and many more were completely incapacitated from sea sickness. We could only speculate upon living conditions on board these tiny, exposed vessels.

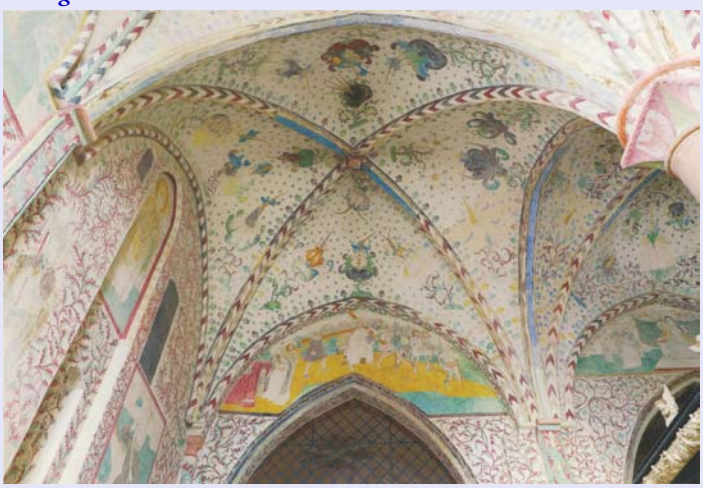
The Museum is not only the final resting place for five salvaged Skuldelev boats, but also a centre for preserving many of the skills required for Viking boat building. Here we watched rope being made from shavings of lime bark, fabric for the sails being woven from wool taken from the sheep now only found in Norway, and wood planks shaped by axe and ancient day planes. Lightening and thunder provided realistic touches to the impression of tempestuous seas, and caused several of the group to abort their flight plans and to extend their stay until Monday.

Flying is the passion, and overseas destinations set new challenges for both the experienced less experienced pilot. For Martin Chandler it was his inaugural international flight and a feather in his cap. For the partners of pilots it's a highly recommended opportunity for exploring new destinations and catching up with friends. This Roskilde trip, like others preceding it, benefited from local knowledge. Flemming's time and efforts with the local organisation, plus Linda Jensen's assistance with hosting the event were much appreciated by all. Thanks are also extended to Steve Dunnett and Ian Chandler who kept us on time and to budget!

Indtil vores næste tur

Sarah's photographs of the beautiful Roskilde cathedral taken on the recent *PPL/IR Europe* social weekend

Cathedral ceiling characteristic of the lightness and colour used throughout the internal décor



The sarcophagus of Denmark's first Queen Margrethe I (1353–412). She was also Queen of Norway and Sweden.

The chiming cathedral clock