

# Instrument Pilot

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## EUROSTUFF

## Living with the DA42 TwinStar

*16 months and 300 hours later, or is a twin better than a single?*

By Peter Bondar

After my first article on my DA42, G-DJET (*edition 42, September-October 2006*), I thought the editor would have given up and banished me to the aeronautical equivalent of the gulags; however it looks like contributors are getting as rare as UK PPL IRs!

For my more avid fans here is part II, typed as usual as I bat back and forth from the USA at 37,000 feet over Greenland. A 24 hour wait at Schiphol meant that even I had cleared my email backlog so I had to knuckle down to this much overdue

article.

With over 37 TwinStars on the UK register alone, the DA42 has quickly become a popular site at many airfields; they do seem to get around.

Most of the fleet seems to be

split between training organisations spitting out CPL/IR fledglings, rich people with more money than time, (moi, bitter and twisted?) and pseudo rental organisations encouraging a new generation of pilots to experience the dubious benefits of asymmetric thrust! See [www.papa-bravo.com](http://www.papa-bravo.com).

My own plane spends about half of its time in the hands of pilots undergoing new MEP ratings, type conversions or wannabees using the DA42 as a transition before they

take delivery of their very light jets at Soloflight and Triple A Flying at Humberstone.

The rest of the time is spent with me. I run a management consultancy/trouble shooting business; the aptly named Flying Doctors and use the plane fairly extensively on business related activities.

We are in the process of getting an AOC (with my business partner who owns another DA42, G-PETS) so we have been flying the DA42 in a JAR-OPS type fashion for the last year to get ourselves into the right mind set! No more crop dusting exercises!

So what have been the highs and lows? Well as they say 'it does what it says on the tin' i.e. it has been a pretty depressing story of reliability, efficiency and damn good fun! Like all Diamond aircraft the quality control is excellent, that is if one aircraft has a fault then all the others get it too! None of this haphazard random shedding of parts seen on Cessnas and Cirrus.

Having said that in between typing the original article and this final version the left hand engine started to swallow its own coolant resulting in a cylinder head more reminiscent of an Emmental cheese! We await Thieler's response to this. The general consensus is that asking a 1.7 litre engine to produce a 135 BHP at sustained high revs is still a bridge too far, hence the arrival of a 2.0 litre unit for new aircraft.

There have been a number of



Peter Bondar's DA42, G-DJET



PPL/IR EUROPE

“ With 32 Twin-Stars on the UK register alone, the DA42 has quickly become a popular site at many airfields ”

# ARTICLES

## Living with the DA42

continued from page 1

MSBs (mandatory service bulletins) and RSBs (recommended service bulletins) but with one exception they have all been implemented before I saw them as a problem.

### *It does what it says on the tin i.e. a pretty depressing story of reliability, efficiency and damn good fun!*

The one MSB that caught me and Diamond out called for extra brackets on the engine to support an oil line (seems like most of the MSBs are based on that requirement), when I went in for service, they were waiting for parts (again a very common theme), so the MSB was not done. Five hours later, landing at Humberside (EGNJ) the plane yawed left on landing, suspecting a flat tire I rolled gently to a halt, only to discover a half litre of gearbox oil all over the right hand engine and right hand brake assembly. Yes, you guessed it; there was a good reason for those brackets they suggested! Very, very fortunately, the 150 bar oil line had given way only a few seconds before landing, otherwise it could have been a lot more unpleasant/expensive.

Is it me, or does every piece of maintenance seem to take three times longer than predicted? My comments are based on the fact that every time my plane goes in for service it takes a lot longer to come out than we expected, often causing frustrations with clients and causing a considerable loss of revenue.

My last 300 hour service, scheduled to last 3-4 days dragged on to 16 elapsed days! It would be interesting to compare notes with others to see if my experiences are typical. Having said all that the engineers who service my aircraft do a very good job, it just seems that somewhere in the Diamond chain of command there is a lack of joined up thinking.

So back to the DA42, our cumulative experience has merely reinforced most of the points that were flagged initially. It's a 160 knot airplane that we flight plan at 140 knots and cruise at around 150 knots burning around 10-12 US gallons total. Fuel burn costs are almost amusing compared to the other guys (proposed UK duty taxation rule changes excepted).

It requires a lot of rudder co-ordination,

left hand engine failures having you pressing with all your strength on the right hand rudder peddle. It flies very well on one engine at around 110 knots once you have trimmed the rudder out and it climbs amazingly well fully loaded providing you have absolutely nailed the Vyse speed; any minor variation eliminates the climb performance!

Without exception all our passengers have been amazed/impressed/relieved depending on their previous perceptions of flying in smaller aircraft. The stability in flight, the outstanding views for all onboard, the glass flight deck, the newness and the quality impress even those less cognisant of these things normally. Even my wife, after nearly 10 years of flying and four different aircraft actually likes flying for the first time in our joint aviation history.

I'm still struck at how always ATC is so accommodating to us in the DA42. I don't



care what they say, in ATC's mind it seems that they think if you are a MEP you know what you are doing, more so than a SEP. In 16 months I have never had a request refused unless it defeated the laws of physics. I was peeved when Leeds Bradford refused to give me radar vectors to the ILS, but then, the ILS was broken. Instead I just had to make do with radar vectors to a visual with much apologies, I mean it was down to 15 kms and a 3,000 foot cloud base!

The G1000 has performed flawlessly and with the 10" MFD in North up map mode you will struggle to get lost. You can even have a Garmin 430 size map displayed in the PFD as well. ADF/DME is an after thought and requires more button pressing than GPS/VOR/ILS use, but it was designed in the USA!

Looking back at Timothy Nathan's seminal dissertation on twins versus singles first published in *Instrument Pilot*, I am converted to his views. There are of course some ifs and maybes. The Cirrus SR22 is

faster with as many or more toys and there are lots of other vary capable single engine aircraft around but where the DA42 scores is in its holistic integration of so many capabilities. A fully integrated glass flight deck that you use to fly the plane, once you have mastered it going back to anything else is a step into the Stone Age. You are a systems manager, and providing you do manage, then the trip becomes low stress, comfortable and very enjoyable.

The airframe generates enormous faith; flawless low speed manoeuvring (rudder required please), exemplary stall behaviour, built out of carbon/Kevlar/glass fibre to brick ^h\*t house principles, with two (yes two) main carbon spars, each capable of taking the ultimate load, certified into known icing systems, relatively less volatile jet fuel held in aluminium fuel cells wrapped inside very thick glass fibre wings outboard of the engines and chunky wide landing gear borrowed from a jet, collectively create an impression of Volvo-esque safety.

For IFR use, the fact that you have a battery backed up AI, Altimeter and Airspeed indicator, underneath a redundantly-powered glare shield light in the line of sight, is very comforting against the 'its gone dark' screen fear.

I am paranoid so I do also carry two hand-held GPS and a hand-held radio plus the biggest collections of LED torches yet seen in Britain.

Two engines at night, over thick and low cloud or over the sea reduce the stress levels unbelievably, especially for nervous passengers. I know that statistics say something else but it's what you feel when you sit in that left-hand seat on a less than perfect day or with a mission profile that raises the 'what if' thought processes, and the DA42 delivers.

### *The G1000 has performed flawlessly and with the 10" MFD in North up map mode you will struggle to get lost*

At the time of writing one DA42 has been lost to flight into thunderstorms in France and one damaged with a loss of both engines after takeoff. The pictures of the one damaged showed to me that pan-caking a DA42 should be an eminently survivable prospect. The level of training for the MEP

# "Whither goest thou"....and should we follow Australia?

By Paul Draper

It's the last day of August and already the signs of Autumn are with us as the Summer (?), the wettest since 1914, and a record, disappears; a floatplane might have been a good idea this year! Next week I go to Swanwick, again, for a presentation meeting. The last visit was for the first NATS GA "forum" when they started their discussion on wanting to improve the understanding between them and GA. This follows their declared intent to reduce the number of infringements of controlled airspace. They have discovered this is a really big problem now that all infringements have to be reported whether minor or major. That followed them becoming members of the Airspace Infringements Working Group (AIWG) at the CAA, and on which I also sat at the time. Sending a loaded 747 or A340 around on a missed approach due to a small aircraft being too close is a hugely disruptive and expensive event and, yes, it does happen quite a lot.

It's an impressive place and the ops room is both full of hi-tech equipment and calm which oozes from the controllers. I never fail to be impressed by their professionalism when I hear them on particularly busy sectors and somehow it helps to have seen them in their place of work.

But I digress. My visit this time will be to hear a joint NATS and Eurocontrol presentation on 8.33 kHz radio spectrum proposals below FL195. This time I shall wear both a PPL/IR Europe and General Aviation Alliance (GAA) hat. I have also

had the benefit of a presentation on the same subject last December at a joint Europe Air Sports and Eurocontrol event in Brussels but this time we shall see how it is to affect us in the UK in particular (event papers available from [www.eurocontrol.int/eatm/public/event/061201\\_eas.html](http://www.eurocontrol.int/eatm/public/event/061201_eas.html)).

Eurocontrol is gearing up to deal with the forecast doubling of commercial air transport by 2020 and that means they believe the existing radio spectrum is too small to deal with the increased radio traffic. 8.33 KHz radios are the considered answer and one already needs them above FL195 but now the level at which they will be required is to be lowered - *to the ground!* Most of us will have them already as they are built in to Garmin 430/530 and equivalents. But, will we need to have two such radios? Let us hope we can persuade them that will not be needed.

There is a business case for the proposal prepared last October by Eurocontrol which makes the case for ALL aircraft to have 8.33KHz radios. The expected cost of equipping the European GA fleet is huge at €327m as shown in the business case (summarised below and full details from [www.eurocontrol.int/vhf833/public/standard\\_page/below\\_fl195.html](http://www.eurocontrol.int/vhf833/public/standard_page/below_fl195.html)).

Furthermore ICAO has endorsed the proposal, as follows, so it will happen:

## ICAO Conclusion 48/29 - 8.33 kHz Implementation Below FL195

8.33 kHz below FL195 was debated at length during the ICAO EANPG48

meeting, held 28-30 November 2006. The relevant ICAO EANPG 48 conclusions, together with a statement from Spain, are provided below:

- ⌚ States and all concerned entities note the EANPG decision to proceed with the full implementation of 8.33 kHz below FL195 in the area of 8.33 operations in the EUR region,
- ⌚ EUROCONTROL be invited to develop an implementation plan for a phased transition to a full implementation of 8.33 kHz below FL195,
- ⌚ EUROCONTROL be invited, in the context of the SES, to propose as soon as possible an amendment to the European Commission Implementing Rule on Air-Ground Voice Channel Spacing (AGVCS-IR) to address the requirement for 8.33 kHz below FL195,
- ⌚ States mandate carriage of 8.33 kHz equipment from 1st January 2008 for all new orders for aircraft to be flown in the 8.33 area of operation in the EUR region, and
- ⌚ States advise all affected entities of the provisional dates for the introduction of services in 8.33 kHz channel spacing below FL195 in the area of 8.33 operations, as follows:

- i) ACC services (not tied to sector lower-limits), and affecting IFR, Controlled VFR and Night VFR, as from 2010,
- ii) Full implementation as from 2013.

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Scenario	Flights		Powered Aircraft	Helicopters	Gliders	Balloons	Hang/Para Gliding	Microlights	Totals
Affected Fleet	Turboprops electing to fly <FL195	Number	100						
		Avg. Cost	€30,000						
		Total Cost	€3,000,000						€3,000,000
	Aircraft	Total Number	40,000	4,000	22,000	6,000	100,000	40,000	212,000
	8.33 Equipped	% Aircraft	5%	1%	1%	1%	1%	1%	
		Number	2,000	40	220	60	1,000	400	
Basic + medium	IFR & Controlled VFR	% Aircraft	25%	20%	0%	0%	0%	0%	
		Number	10,000	800	0	0	0	0	10,800
		Avg. Cost	€9,000	€9,000	€2,500	€2,500	€1,800	€2,500	
		Total Cost	€90,000,00	€7,200,00	€0	€0	€0	€0	€97,200,000
Full	Radio equipped	% Aircraft	70%	79%	99%	89%	5%	10%	
		Number	28,000	3,160	21,780	5,340	5,000	4,000	67,820
		Avg. Cost	€4,500	€4,500	€2,500	€2,500	€1,800	€2,500	
		Total Cost	€126,000,000	€14,220,000	€54,450,000	€13,350,000	€9,000,000	€10,000,000	€227,020,000
Estimate of impact on civil aircraft - numbers and costs								Overall Total Cost	€327,220,000

# The ILS that nearly killed me

By Nigel Everett

Death, when it came, would have been only simulated but in any case it was narrowly avoided by Brian Marindin pointing out that I was now very low, so I stopped looking at the terrain and got my head back in the office once more so as to climb away. However, even a simulated death is not something to be entertained lightly. I am not too sure how the Airways Flight Training simulator replicates a fatal and there must be a rich seam here for some imaginative nerd to quarry. Obviously the screen should go blank, except, perhaps for the receding light in the centre of the screen, just like we used to get on the dear old BBC, when it had no competition and sent us all to bed with the National Anthem ringing in our ears. I had visions then of retired military men at such times standing as stiffly to attention as they were able at their advanced age, their cocoa mug at the Present, their striped pyjamas smartly creased and their teeth left in place until Her Majesty had departed the Lounge. Would medals be worn on Her birthday?

The light at the end of the tunnel is, of course, a common feature of reported near death experiences, so that must be an important part of our simulation, but what besides? Heavenly choirs would be a suitable touch, perhaps with a voiceover of the AAIB report that would follow:

*"The pilot had flown only one instrument approach in the last three months and could not have been in good practice; it was therefore probably an error of judgement on his part even to have attempted an ILS approach down to minimums whilst not current. The most likely possibility is that at a low level he caught sight of the ground and made a transfer to visual references although neither the runway threshold nor the approach lighting was visible at that time.*

*Visual flight at low level in poor visibility is often hazardous and it is possible that in this instance the pilot allowed the aircraft to make contact with the terrain while trying to position himself by inadequate visual references."*

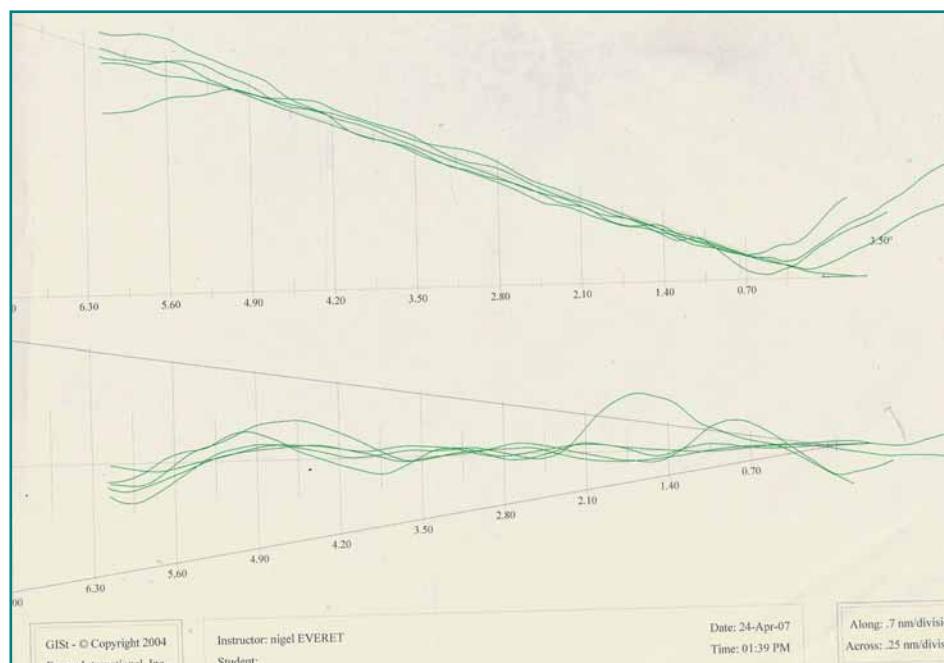
The past life of the pilot would, no doubt, be flashed on the screen but, unless simulator pilots were required to submit

their entire c.v. before taking the controls, this might be something a bit beyond a simulator designer. On the other hand though, it might be possible to knock out some very vaguely expressed material that would strike the odd chord with virtually

everybody, in much the same way that fortune tellers appear to sense the most intimate details of their customers' lives. For example:

*"I think I discern somebody important in your life with a name that*

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*Top photo: The simulator on which Nigel experienced his simulated near-death experience  
Bottom photo: A print out of Nigel's approaches. In two cases he wandered well off the centre line as soon as he broke cloud and began to navigate by the terrain. In all cases he maintained his rate of descent although he was under the impression that after breaking cloud he was flying more or less level*

*begins with an M or perhaps it's a C."*  
*"My God", responds the customer in an awestruck and shaken voice, "How do you know about Angela?"*

The simulator's all purpose voiceover might go something like:

*"Nipples played a very important part in your earliest days and their importance recurred from time to time throughout the rest of your life. You were bullied as a small child and bullied others as a big one. Material success never reached the heights that you had hoped for but you experienced some small achievements in other fields...."*  
*And so on.*

### Transfer to visual

I fear that the somewhat more interesting attraction of simulating fatal accidents has led me to digress from the whole purpose of this piece, which is to tell you that Brian Marindin recently let me have a go on his Approved instrument training simulator and in doing so I relearned a very valuable lesson, which is that you must not transfer from instruments to visual reference unless you have the approach lights and the threshold clearly in sight.

Well, of course you knew that anyway, didn't you?

So did I, in theory at least, but it takes a near death experience in a simulator (or, even more so, a real life one) to bring the importance of that theoretical knowledge home. I was 'having a go' on Brian's simulator to see whether it would be a good way to show visual pilots the perils of scud running. Brian set me up on an ILS approach, dialled up some suitably grotty weather and at about 500 ft or so I broke cloud and as I was being a visual pilot I immediately transferred to visual flight and groped my way along as field after field rushed by below.

*"You're getting very low"*, said Brian, and By Golly, there I was, now at less than 200 ft and still descending without being aware of it. High tension wires or whatever were going to get me very soon. The CDI showed an off-scale deflection.

So I now know that once you start looking at the ground in such conditions, it just draws you nearer and nearer to it. For the VFR-only pilot the best bet is probably to land in the first likely field.

And for the IFR pilot the unbreakable rule is to ignore the terrain until the approach lights and threshold are well in sight.

### "Whither goest thou"

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### 8.33 KHz - Statement by Spain

Spain considered that this issue was not mature enough. Accordingly, and taking into account the difficulties of implementing this technology in Spain below FL245, Spain stated that it was not in a position to approve the draft conclusion presented to the meeting on this matter.

### Should we follow Australia?

So how should we react to this proposal? You might think that we who fly in controlled airspace should not be too concerned, especially as we already mostly have such radio(s), but we might be forced to have a second and importantly this is another example of us having to be equipped more and more like a mini airliner; and why - because of the increases projected and happening in commercial air traffic. And that is the point, especially for the other sectors of GA who will be affected.

Why is it that the principles of "the beneficiary should pay" have not been proposed at the outset? If more and more commercial aircraft are required to be accommodated, the airlines make profits for their shareholders and NATS benefit from lower operating costs as a result of this proposal, then they should build into their business case the costs of equipping those who would not otherwise need such equipment.

This is a principle that we have been pursuing since the earliest days of GAA being established and it becomes more and more relevant. What has this to do with Australia? As noted in *Intelligence Reports* below, the Australian authorities have proposed to pay GA for their required equipping with Mode S transponders. That case is built on the "beneficiary should pay" principle and the fact that by installing such capability the existing ground equipment can be removed making very substantial cost savings, sufficient to equip the fleet with Mode S!

So how should we pursue this principle, and indeed should we do so? I believe the answer to the latter point is that we must continue to make this very important point. Airspace is a common resource and, as I forecast some five years ago, we are gradually being forced out of more and more of it and needing more and more sophisticated equipment to use it. Controlled airspace has expanded exponentially over the last ten years or so and the CAA has stated that it has to agree with such expansion in principle as the Government has stated its intent that if the general public wishes to fly more and more, as seems the case, then arrangements will have to be made to enable them to do so; and that means GA are the losers.

In the case of 8.33kHz the intent is established but the detail is yet to be finalised and all will have to install by 2010 - 2013.

The next meeting at NATS should be interesting!

### Postscript

The bi-lateral UK / Eurocontrol meeting held on 6th September was indeed interesting. Of 14 people present there were only two representatives from GA (Martin Robinson of AOPA and me) and the rest were CAA, MOD, NATS, NATO and Eurocontrol.

It is clear "they" are intent on progressing with this proposal but the question is "where and when"? In the UK the CAA / NATS want it to apply, in addition to Class C airspace, to Classes A,B,D,E & F and exclude G. So, for us in Class C we shall definitely need it and also to transit some other classes. But, we shall almost certainly have 8.33 kHz already with our Garmin or King GPS kit. Will we need two radios for redundancy? Despite my raising that point in December they had not really taken it on board. However they have now and if, as seems hopeful, we can sustain a safety case for one such radio only, with 25KHz backup, I think they will agree.

The timescale is also more flexible than the ICAO recommendation, which is only advisory, proposes and there are various hoops to jump through with the EC. It was also suggested that there should be an independent study as to other potential options and for the rest of GA (unlikely for us) there is just the chance of invoking a provision in the EC Commercial Charging Regulations for some form of funding to assist.

If the timescale for retrofit can be extended to nearer 2020 then GA might not protest too much as surely the current fleet will have virtually disappeared by then and glass cockpits will be the norm, or will they?

We clearly have to remain engaged on this project!



# INTELLIGENCE REPORTS



By David Bruford

## GA manufacturers post strong half year numbers

The General Aviation Manufacturers Association (GAMA)



announced airplane shipments and billings for the first half of 2007 at the Experimental Aircraft Association's annual AirVenture. In the first half of 2007, shipments of general aviation airplanes totalled 1,883 units, a 1.7 percent increase over the same period last year, with industry billings rising 11.7 percent to \$9.8 billion.

"The innovative technologies that our manufacturers are showcasing at premier events like AirVenture have a direct correlation with making flying easier and safer," said Pete Bunce, GAMA's President and CEO. "General aviation manufacturers are committed to creating a renewed interest in flying through the introduction of products that will spur more people worldwide to experience the exhilaration of flight."

Shipments of piston-engine powered airplanes through the second quarter of 2007 were down slightly from the same period last year to 1,226 units, a 4.2 percent decrease. Turboprop shipments rose 15.2 percent from 158 units in 2006 to 182 units in 2007. The business jet market segment grew by 14.7 percent with an increase in shipments from 414 units in the first half of 2006 to 475 units in the first half of 2007.

	2006	2007	Change %
Pistons	1,280	1,226	-4.2%
Turboprops	158	182	+15.2%
Business Jets	414	475	+14.7%
Total Shipments	1,852	1,883	+1.7%
Total Billings	\$8.8bn	\$9.8bn	+11.7%

## Danish 0% aircraft VAT doomed?

Quite a long time ago a Danish airline, Cimber Air, claimed VAT for supplies for domestic flights which claim was challenged by the Danish Customs. The case went to court. The Danish court asked the EU court if the 6th EU directive allowed VAT reclaimed for domestic flights. The EU case was C-38-202 and was concluded almost three years ago. That case made the EU commission aware of the Danish VAT Act and its "irregularities" and the commission asked the Danish government to alter the law to reflect the rules in the directive.

On August 24th the Danish government released a draft VAT Act amendment which proposes that the text in the EU directive is adopted more or less directly. Comments on the draft were allowed up to September 15th. It has not yet been discussed politically at all – it is a so called Technical Hearing only at this point meaning.

Once the hearing is over the Ministry of Taxes will take the answers into consideration and then start the political discussions on the (revised) draft. If the draft is adopted as written, Danish VAT at 0% on private aircraft will be no more!

When it will take effect, if at all, is not yet known. It is proposed to be 1st January 2008 however it is hoped to have the legislation delayed for some time to make everyone able to accommodate the price changes. This will affect not only Danish imports but paint shops, maintenance shops, avionic shops, flight schools, private aviators, airports, fuel suppliers and all others involved in general aviation.

## LAX collision narrowly avoided

There are high-tech systems run by highly trained people designed to prevent runway incursions, but it appears a lesson learned by most of us before we hit kindergarten prevented disaster at LAX last month. According to the Calgary Herald, a series of miscommunications between controllers and the crew of a WestJet



Boeing 737 resulted in the Canadian airliner getting ready to taxi across a runway and into the path of a Northwest Airlines A320 that was taking off. About 50 feet from the runway, the unidentified pilot of the 737 apparently looked both ways before crossing and saw the Airbus in time to query the ground controller about whether he really was cleared to cross the runway. The ground controller saw what was happening, the pilot hit the brakes and the runway incursion alarm went off in the tower just as the WestJet plane stopped. FAA spokesman Ian Gregor told the Herald that the miscommunication began just after the WestJet landed on a scheduled flight from Calgary. He said a crewmember switched from tower to ground frequency before receiving preliminary taxi instructions from the tower. The pilot said something that led the ground controller to believe that he'd been cleared to cross the runway and the ground controller cleared him to the gate. The FAA and WestJet are investigating the incident. It's the eighth incursion at LAX this year.

This reminded me of an incident at Lasham where I was waiting to taxi across the active and ATC said "After the landing... mutter mutter... taxi to the clubhouse." ATC was perfectly clear but my passenger was chatting and I didn't query ATC. As soon as a landing glider passed in front of us I released the brakes and had applied a little throttle as a tug plane landed just feet in front of us. I hadn't looked left and right and had made a massive and unsafe assumption. After every taxi instruction since I have followed the Green Cross Code.

## Airworthiness directives watch

Garmin GSM 85 servos are the target of a notice of proposed rulemaking Airworthiness Directive that would require you to inspect the GSM 85 servo gearbox for foreign object debris. If debris is found, the unit would then go back to the manufacturer for replacement. Jamming the gearbox could cause the aircraft's controls to respond only to excessive manual force. Aircraft that may carry the GSM 85 include Cessna certain turbo-182 and 206 aircraft, Hawker Beechcraft G36 and G58 models, Diamond DA40 and DA40F aircraft as well as Columbia 350 and 400 aircraft as well as Mooney M20M and M20R aircraft.



## Australian Joint Consultation Paper timeline for the deployment of ADS-B technology

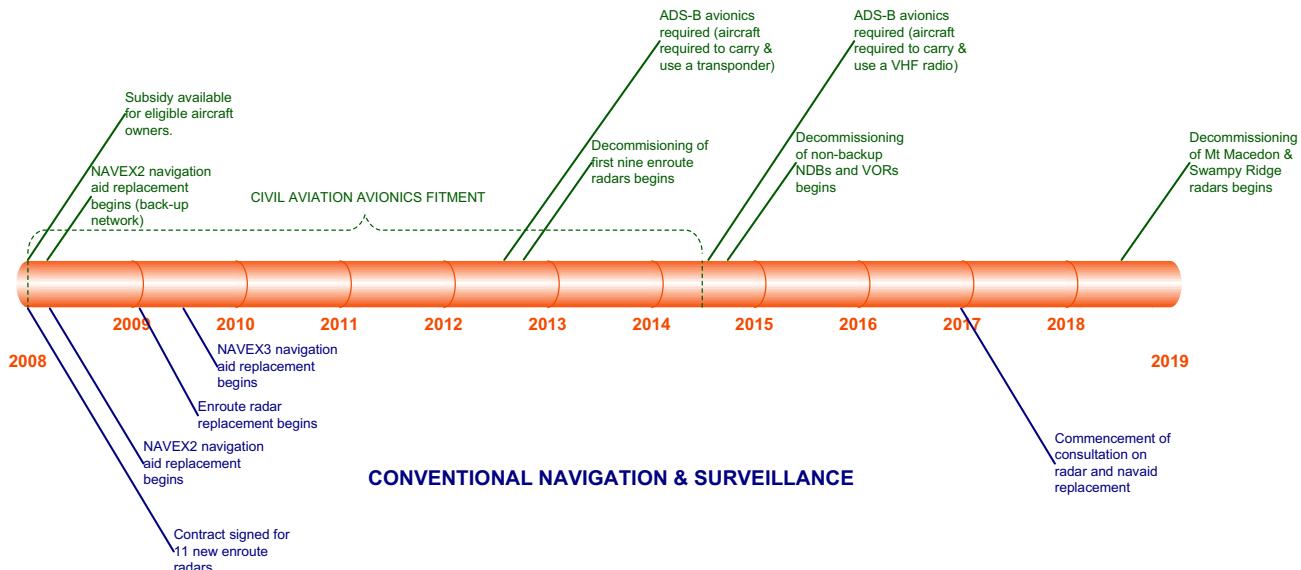


Figure 1: Indicative Time Lines (GREEN: Satellite Technology; BLUE: Conventional Technology)

Source: <http://www.casa.gov.au/newrules/airspace/jcp/jcp.pdf>

### Australia proposes free ADS-B avionics

As an example of how ADS-B installation will work abroad, the Australian government and Airservices Australia, the country's privatized ATC provider, proposed recently to cover the purchase and installation costs of ADS-B and GNSS avionics in approximately 11,000 Australian-registered aircraft with a maximum take-off weight of less than 5,700 kg (12,500 pounds) under the nation's ADS-B transition program. (GNSS covers GPS, Galileo or other Satnav systems.) To achieve a rapid transition, all IFR aircraft, as well as VFR aircraft currently required to carry ATC transponders, must be equipped with ADS-B OUT and a TSO C-146 GNSS receiver by mid-2012. VFR aircraft currently required to carry only VHF must carry ADS-B OUT and a C-145 GNSS receiver by mid-2014 (see timeline above).

Equipment replaced remains the owners' property. Installation of an eventual 39 ADS-B ground stations is under way, with most en route radars set for decommissioning after 2012 and roughly half the country's VORs and NDBs after 2014. The ADS-B plan, now out for public comment, describes the avionics financing as "revenue neutral," since its cost would be offset by decommissioning savings.

### JPDO study backs eLoran as Satnav backup

A satellite navigation backup study commissioned by the US Joint Planning and Development Office (JPDO) has given eLoran "the highest overall preference rating... particularly in the U.S." Not yet publicly released, the



*Example integrated eLoran/GPS receiver*

180-page document was prepared by ITT's advanced engineering and sciences division and assessed seven candidates against a series of essential requirements. The candidates include DME/DME/INS; GNSS/INS; eLoran; VOR; "hardened" GNSS; terrain mapping; and multilateration. Leading requirements were the ability to support RNP values of 2.0, 1.0 and 0.3, for en-route, terminal and non-

precision approach respectively, plus technical readiness by 2015 to 2025 and complete independence from Satnav. The ability of eLoran to continue beyond INS coasting limits following Satnav loss was also noted. The report concluded, "eLoran scored significantly highest for the general aviation segment, and eLoran integration into GNSS/eLoran FMS systems for general aviation and certain air carrier segments appears to be a viable and capable solution."

*How satisfying, on behalf of myself and Sylvain de Weerdt's quiet campaign waged since 1990 I would like to say: "Told you so."*

### Bureaucracy ready for VLJs

While we still don't know just how the alleged onslaught of very light jets (VLJs), personal jets and family jets will affect aviation as a whole, the FAA appears to be among those who believe the impact will be huge. If you've noticed that VLJs seem to figure in just about every FAA news release on airspace and new technology, there's a good reason. It's called the FAA VLJ Cross Organizational Group and it has representation from no fewer than 35 agency departments, all of which believe that VLJs will affect their particular bailiwick. "We started brainstorming, identifying issues that could possibly arise, and looking at what we could do as an agency to [promote safety] while ensuring the smooth entry of these type aircraft into service," Mary Pat Baxter, who heads up the group, told FocusFAA, the agency's internal newsletter.

The diverse interests meet in person and by teleconference about every six weeks, and Baxter says it has put the agency in a better position to handle the little jets when they start showing up in significant numbers. Among the projects underway now is evaluating DayJet's introduction of the Eclipse 500 to the air taxi business that some believe will be the foundation of the VLJ market. "With this, we're going to have Air Traffic involved, so they can actually see how this operation is going to roll out - before it starts - so they can work out any kinks," Baxter said.

Her group has also become the go-to organization for agency officials who have to speak to Congress or auditing organizations about VLJ-related issues. "If Congress needs a briefing, or somebody's going up to the Hill from our agency, we make up the briefing papers," Baxter said.

# Getting an IMC Rating in Jersey

By Andy Reohorn

## Why Jersey?

Much as I believe in keeping my business in the UK I have stretched the point a little and at least kept it within the English Channel.

Why? Money. Though now I have been, there are other reasons I would recommend it. All the aids you need are placed in a short distance of each other, it is a friendly professional place to be, and the aeroplanes are well maintained and equipped. The course cost £2,061. That included the written (which I had already done), as well as a Confuser and Thom Book (not required) and all landing fees and approach fees except away from the island. It also included the exam fee, so is all inclusive in the real sense of the word.

I reckoned it would have cost me in excess of £3,500 in the south-east of England, to include landing fees, approach fees and so on that are rarely quoted for. How many club/school aircraft do you fly for that money in England that have twin GNS430s, everything working (dual nav instruments), modern fit and in one case Mode S transponder? The only extra was the landing fee at Cherbourg (10 Euros) and the landing fee at Alderney (£16.80, but that does include 72 hours free parking and reduces to £8 if you buy the fuel at £0.72 litre). Oh, and the course is 16.5 hours flying, including the test.

## Class A airspace

You have the added bonus of flying in Class A airspace. Because a lot of time is spent in that type of airspace the instructors tend to be IR rated so you have the ability to fly in real cloud which is rather different from flying with screens up or goggles on. Being tossed about in cumulus cloud doing NDB holds is a challenge to top most. Of course it is also possible to fly SVFR with the instructor doing the lookout whilst you work hard behind the screens. Regardless of what conditions you are flying in, the fact you are on radar all the time is reassuring, especially as the majority of the training is done over water.

Let's say I am very glad I have enough currency and P1 time to not have to worry at all about my handling of the aircraft.



Andy's personal mount, TB10 G-BLCG

To be fair I had asked the guys to apply IR standards rather than IMC (and they did) and they pushed me further than necessary to pass the test, but all the same, handling the aeroplane without having to even think about it is the most important pre-requisite to my mind. The more time you have as P1, the more you will gain from the experience.

To give you an idea of a typical training sortie, my day doing holds at Cherbourg would be a good example.

## A typical day on the IMC course

I had certainly had a fantastic few days, however today was a change of instructor and he had been told to work me hard as it was all clicking together rather too nicely for my first instructor's liking; (the benefit of waiting a few hours before commencing the course, rather than doing it as soon as possible after the PPL).

However I have truly never worked so hard in the cockpit until today!

We were cleared to the east on runway heading, not above 1,000 ft QNH, SVFR. As we levelled off we hoped to be able to take up a heading to intercept the relevant radial from 'JSY' VOR to put us nicely on route. However, we were cleared to climb to 2,000 ft initially and then given radar vectors to avoid traffic. By this time the screens were already down as we were in real cloud and being bumped about accordingly.

Cleared to resume our own navigation, we then headed for the intercept of the JSY radial. Tracking along it, I kept an eye on the DME, as at 29 miles we were to track to 'MP' (NDB) to take up the hold. In the meantime we were asked to climb to 3,000 ft.

Tracking an NDB is not the easiest of things I have ever done and is substantially harder than tracking a VOR radial. However, the needle eventually settled down to where I wanted it and I busied myself tuning the radio to Cherbourg Tower who we would go to when we left the hold at 'MP'. In the meantime the controller at Deauville Approach was checking our intention as she had to thread a Citation onto the approach at Cherbourg.

***The course was all inclusive and cost £2,061 including the written and exam fee***

As the needle fell away on the ADF, I carried out a teardrop join to take up the hold at 'MP'. Tracking outbound for 1 minute and then turning right (rate 1 of course) to intercept the NDB again, we watched the needle drop to the right as we passed overhead (well ok, about half a mile to the left). Turning right, we took up the hold and the next 40 minutes were spent furiously trying to get the hold spot on, as

the cumulus cloud did its utmost to thwart all efforts I made to hold heading and height. Whilst remembering to carry out FREDA checks and watching the needle and timing the outbound leg and adjusting for wind and listen hard to the instructor trying to make sense of what he was saying to me. "Turn left 20 degrees, wait for the needle to move - fly the aeroplane - you've overshot, turn right 30 degrees - watch your heading" and so on.....

Having managed a couple of reasonable efforts towards the end we descended with the procedure, adjusting for the change of wind as we descended, keeping on track, watching the needle, carefully trying not to bust any levels, levelling at minimum descent height... Look Up!! And as I did I was relieved to see the runway ahead. The transition from IMC to visual is a hard one but I managed to land my steed on the 2,440 metre runway without ripping the wheels off and we stopped for a well deserved lunch.

After lunch we then took off and established ourselves in the hold again. It went better this time and soon we were descending with the procedure to the ILS. One missed approach later, re-establish on the 'MP' NDB, watch the needle fall away and then head for Jersey.

We tracked outbound on the ADF needle for a while before tracking the JSY VOR and being accepted back into the zone for the NDB procedural approach to the ILS for R09 at EGJJ. After a little manoeuvring by radar vectors to avoid other traffic the workload shot up again as I remembered to tune and identify the ILS (oops!!) whilst remembering to listen to ATC, listen to Frank, hold height, heading, tracking toward the JW NDB all the while now. Kept at 2,000 ft we received a late clearance to descend and the right turn toward the ILS came very quickly.

After some very successful ILS approaches a couple of days ago I was pretty disappointed to not be lined up exactly as the screens came away at 500 ft. We went around to carry out a bad weather visual circuit which was a major change from the last three hours flying under the hood, banking tightly round the airport on a low level circuit to a good (if slightly flat) landing.

The most critical thing I learned? Keep your cool, be organised in the cockpit and always apply the "aviate, navigate, communicate" principle all pilots know so well, but forget so easily. Know your approach/procedure plates well and also, vitally, the missed approach procedure.

### **What else is involved?**

Your training will involve general handling on instruments much as you did on your PPL, recovery from unusual attitudes on both full panel and partial panel and general handling with various instruments failed to simulate, for example, vacuum failure.

A rather amusing moment was when my instructor put the screens up as I lined up and ordered me to take off, simulating a zero visibility take off. Somehow I managed to keep on the centreline, teaching me a valuable lesson in the process: ALWAYS TRUST YOUR INSTRUMENTS!!

We then went onto partial panel at 200 ft and turned to the south at 800 ft, levelling at 1,000 ft before being given clearance for further climb to 3,000 ft. It makes you think hard on full panel; when you are on partial panel it becomes a challenge.

### **Keep your cool, be organised in the cockpit and always apply the "aviate, navigate, communicate" principle**

Another day on the course will be spent being given radar vectors to the ILS. Intercepting the localiser whilst keeping an eye on the glideslope can be an interesting game, particularly in a crosswind. For someone who hasn't spent any time playing with the big boys, it was rather stimulating mixing it with 737s and the like.

One delicious moment came as we were holding for departure and were given the instruction "Line up behind the landing Fokker." How I resisted the temptation I do not know. Frank looked over at me and grinned.

Another day will consist of a navigation exercise, tracking between NDBs and VORs, usually returning for a radar vectored approach to the ILS.

The day spent learning about VOR and NDB holds was particularly challenging as it was all new and required a good amount of concentration, particularly at keeping spatially aware. I spent an extra day doing NDB holds and procedures at Alderney as my home airfield relies on an NDB approach. After returning to Jersey, taking up the VOR hold and then doing a VOR procedural approach finished with a bad weather low level circuit, it was fair to say I was tired!!

### **The IMC test**

Having been put through the mill over the

previous few days, the test was promised to be not overly taxing, according to the examiner. I wouldn't want to give too much away about what is involved, but you take off and head to the general handling area and settle into your flying.

By this time you have already demonstrated that you are proficient at climbing, turning and flying straight and level on full panel. Partial panel, unusual attitudes and turns come next before demonstrating your ability to fix your position and then fly back to the hold (I did the NDB hold).

A few times around the hold and then the procedure to the ILS for a missed approach and low level circuit.

It was a relaxed and pleasant trip apart from when I overshot the localiser on the ILS, but got it back on track. A handshake and broad smile later and the IMC rating was in the bag.

### **The benefit of an IMC rating**

Apart from the obvious benefit of being able to fly out of sight of the surface in airspace up to Class D in the UK, I have come away with the ability to fly better, to tighter tolerances and have the faith in myself to navigate a lot more successfully across country using radio navigation.

The ability to climb up on top of thin stratus layers and rejoice in the sunlight is a personal favourite of mine, whilst still being able to get to where I am going.

It is one rating that is unique to the UK and we are very fortunate to be able to exercise the right to fly in IMC/under IFR with such an inexpensive rating.

Of course there are still limits; freezing levels are one important one that will still lead to cancelled flights. The advisory limits are not as high with regard to decision heights as the full IR is, but it still opens up the scope of ones flying.

I would thoroughly recommend not diving straight into the IMC rating directly on passing your PPL. The experience I had gained from 200 hours P1 meant I could concentrate on the flying without having to worry about the handling. However, I am not advocating everyone waits until then to do it. Not everyone is fortunate enough to have done that many hours in the time I have, but I would say that every hour over the 10 hours P1 requirement for issue of the IMC rating will be of benefit.

If you are lucky enough to find excellent hosts like mine, whilst having a week away from the humdrum of day to day life, it makes the experience even sweeter.



# Rey's rendezvous to the land of the Midnight Sun . . .

By Peter Geldard

**I**t is a mark of how fluent the Norwegians are in English, that when I phoned their CAA to make preliminary enquiries about this trip, I was greeted with the request: "Did I want to hear the good news or the bad news, first?"

The 'bad' news is that "if you are flying VFR, no night flying is allowed"; the 'good' news is that "where you are going, it is daylight for 24 hours a day!"

Our ambition was to fly to **The Lofoten Islands** above the Arctic Circle and experience '**The Midnight Sun**'. The first decision was whether to go North or East? Although via Scotland & The Shetlands and then across the North Sea to Bergen is the usual route and seemed the obvious choice, that would have involved 240 miles across cold water which in the single PA28, G-BPOT, wasn't every attractive. So after many a beer drinking evening spent with Brian Head, a genial 'non-flying' navigator who accompanied me on the trip, the 'overland' route via Belgium, Holland, Germany, and Denmark won the argument. [In fact when we checked the distances, the 'overland' route is only 4NM longer!]. Even so, we made sure we had a life raft (which we hired from Brian Bennewith of Millen Aviation) and that we always wore our life jackets.

After ensuring that we carried spare oil (+ funnel!), a hand-held transmitter, and a second GPS, G-BPOT left Rochester on 15 June at 09:00. Our route (coasting out over Deal) was direct to **Texel**. It was perhaps an omen of things to come that no sooner had we left England than we were in IMC! We maintained 4,500 ft and remained 20 miles out at sea following the Belgium coast. After working Ostend, they are inclined to hand you over to Dutch Mil on 132.35; but if you are going to enter the 'Genofic' area

(the coastal area of Holland) it is essential that you contact Amsterdam Info on 119.17 (due to the intensity of traffic – not least Oil Helicopters – in this region). After nearly two hours of IMC we finally broke the clag at 1200 ft. We were grateful for our Garmin 430 that not only gave us a course but put us on a 15 mile 'straight in' to Texel 04. Although Texel is a pretty strip, it is just that: a pretty grass strip in the middle of grass fields, and difficult to spot in marginal VMC.

## *Beware of distractions as extended threshold is over a naturist beach*

Texel requires 12 hours notice for Customs for flights from non-Schengen states (such as the UK) and encourages the use of a BP Card for purchasing fuel. All these details (and more) are on their friendly web site: [www.texelairport.nl](http://www.texelairport.nl). We landed after a flight of 2:20; some 20 minutes after another 'G' registered plane had come in from Denmark. Such activity meant that the Border Police felt it necessary to visit the airfield and thoroughly checked our papers. This was the only Customs we met on the whole of the trip!

With the benefit of the other 'G' plane's knowledge we were assured that although the weather looked terrible, it was clear 'further east'. Although Texel is heavily surrounded by Military Restricted areas to the NE we were able to get clearance to follow (on the GPS – as we couldn't see them on the ground!) the chain of islands that skirts the Netherlands Coast and along the north coast of Germany. Our object was to land at an obscure German island: Helgoland.

Every since being a schoolboy, when I learnt how England had 'swapped' this little outcrop (some 60 miles into the North Sea) for Zanzibar, I was intrigued to visit. [At the time, 1913, it must have felt like a bargain; but I bet the politicians had regrets a year later when war was declared!] As well as being a German outpost during the First World War, it was also a major submarine depot during the Second, when conveniently a small airfield was built.

Luckily, with some 20 miles to run we had perfect VMC, which is essential to see the little island, let alone the runway! The airfield is built on a small secondary outcrop, appropriately called 'The Dune'. The landing plate must have one of the rarest notes for pilots anywhere: "*R24 is 258 metres (845 ft) - 100 hours as P1 + experience with short Rwy's required. Beware of distraction as extended threshold is over a naturist beach.*"!



**Helgoland: Short finals – short runway**

The main Island (which one gets to via a shuttle boat) is run totally on the basis of the fact that it is 'duty-free'. At night there are about 500 residents, whilst during the day after the ferryboats arrive it goes up to about 5,000! Although we stayed there on our return, we were keen to get on, and our next stop was **Tonder**, just inside the Denmark border. This was again a very friendly little field with Avgas (although only on a BP card) where – as is often the case amongst

the flying fraternity – “someone had a sister who had a friend who ran a motel just a half a mile from the field”!

Tonder is a compact medieval gem and worthy of a trip itself. We explored it thoroughly the following morning as we waited for the cloud base to rise. On the basis that every leg got us closer to our destination, we decided in the afternoon to fly to the north of Denmark to Thisted – a modern field with a hard runway. With the weather deteriorating we were resigned to stay there for the night, only to be informed that despite all its wonderful facilities, the field was closed for the weekend. But with flying comradeship once again in evidence, the controller “knew a farmer who had a strip nearby. He was away at the moment, but he would contact him on his mobile and make arrangements for us. And, by the way, as the field is very isolated would you like me to arrange for a taxi to pick you up?” The farmer’s field at **Sennels** was not for the faint-hearted, being an unmown short uphill field; but it was at least a point of departure for the flight the next day across **The Skagerrak**.



*Brian Head surveys Sennels:  
Short field – long grass!*

After submitting a flight plan by phone to Copenhagen from our hotel, we took off the next morning for a direct 50 mile over water flight to **KristiansAnds** – we had arrived in Norway!

Immediately one became conscious of where all their Oil revenue is being spent: every airport in Norway is state-of-the-art with all the ‘bells & whistles’. [In winter they like a very accurate ETA, so that the snow ploughs can clear the runway three minutes before arrival!] From then on, (apart from Bergen when there were two of us), we were the only GA aircraft ever to be present at any field.

One’s first point of entry into Norway must be via a ‘designated airport’ to clear customs – this consisted of a fireman shaking our hands and, in perfect English, welcoming us to his country. He then guided us through the process of purchasing a ‘Landing Card’ (more accurately, a T/O

card) which for £73 (\$100) allows you unlimited use of their facilities, landings and parking for seven days. [As you would expect, no one ever asked to see this all the time we were there.]

Although GA is very welcome in Norway it is, even for the locals, let alone for visitors, a very minority activity. The airports (and staff) are all geared for commercial traffic so going in/out of security locked doors – sometimes just to get a chart – was a bit of a hassle and one was treated (respectably) as a rather rare species. Each airport has a ‘GA Room’ but because it is so underused creates confusion, as nobody quite knows who has the key for it! In it, there is usually a brand new sofa, telephone, fax machine and computer. The rest is up to you!

Luckily, early on we became conversant with the web site: [www.ippc.no/ippc/index.jsp](http://www.ippc.no/ippc/index.jsp). On this one official web site there is everything you need: details of every airport, weather, Notams and the ability to submit a flight plan. The weather section is very important since, as we quickly found out, it rapidly changes (even in Summer) and because of the distances involved can be quite different at arrival, whatever the TAFs said when you departed! There is, though, a very good and simple ‘VFR map page’ that shows the whole of Norway and instantly marks what areas are/are not VMC.

One submits a faxed flight plan, and then phones Oslo on the ‘free’ phone to check it is OK. The next leg was going to be three hours involving going over the mountains, so they asked for a checkpoint about every hour. For the rest of the trip one simply entered one’s departure and arrival airfield with “c/w” (for ‘coastwise’) as the main route and they were entirely happy. Once you have spoken to Oslo, the flight plan is ‘in the system’ and one can depart immediately. As we needed to refuel (both ourselves and the plane), we delayed our departure for an hour. This allowed us to learn two useful tips that paid off for the rest of the trip: Nearly every airport preferred that fuel is paid for on a Shell Card. I had one (they are relatively easy to obtain – although it involved some paperwork). This made payment not only painless but, because I suspect very few ‘private’ planes – as against ‘commercial’ ones – use these at the moment, when the bill finally came through some two months later, fuel was often charged at the lower ‘commercial’ rate!

The other ‘tip’ was that if one wore one’s ‘hi-viz’ vest + carried a ‘Crew card’ (I have an PPL/IR Europe one, but AOPA can also produce one), not only did it get you through closed doors more easily, but food/

drinks could be bought at ‘crew’ rates. When one considers how expensive the cost of living is in Norway, every little helps.

Fully re-fuelled, we took off for a direct flight to **Bergen**. As this was over rather high and inhospitable country we climbed to 8,500 ft. Innocently, I reported “level at FL85” to which a sweet female Controller corrected me: “No you are not! You are at altitude 8,500 ft, transition level is 9,000 ft.” [In the UK, transition level is 3,000 ft.] This was also a polite reminder as to how mountainous Norway actually is, and why IFR flights can be difficult for small planes: Even in summer the icing level hovers around the Transition level. Unless the plane has de-icing equipment, one cannot afford the ‘luxury’ of always being routed above FL90.

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***Even in summer, the  
icing level hovers around  
the Transition Level***

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Although at our level the VOR and NDB worked, one soon realised that when lower down - especially among the fjords – these soon ‘dropped out’. It is here that GPS is essential. This was doubly so if one has been in IMC for a couple of hours and then suddenly sees one island among a group of 30 and need to identify it!

Even though one is ‘technically’ flying VFR - because the total traffic is so small - everyone is given a unique squawk and is constantly under radar surveillance. [The equivalent of ‘Flight-following’ in the States.] One is then handed over from one area control to another. There was one occasion during the trip when, due to the mountains, we lost contact. Kindly, a Ryanair flight relayed our call and we were given a new discreet frequency that relayed us via a local tower direct to area control.

Although now one can use GPS for one’s ‘primary’ navigation it is important, due to RAIM [Receiver Autonomous Integrity Monitoring] failure, that one does not rely on it ‘solely’. Our Garmin 430 did fail once (mid-ocean when we were returning across The Skagerrak) but because we were also following airways (which were VOR based) no panic ensued. [Interestingly, because my alternative Skyforce GPS needs only three satellites to function – as against four for the Garmin - the Skyforce one came back into operation a good 20 minutes before the Garmin. Another reason for having two GPS!]

The let-down and approach into Bergen, the second biggest airport in Norway

with much helicopter traffic due to the oil industry and quite busy, was simplicity itself. It is vital that you have current plates (I used Bottlang for the whole trip) since the tower directed us to rather obscurely-named Reporting Points before integrating us in to the circuit. On landing we were met by a 'Follow me' vehicle that took us to the GA parking – rather a long way from the main terminal; however fairly soon a free shuttle van arrived to transport us. Even here GA personnel – especially 'foreign' ones – were an unusual experience for security. Bergen's GA room was part of the General Manager's office that made for interesting conversation with personal help thrown in!

Mistakenly, we had failed to ask for Avgas the moment we landed so when we wanted to depart there was quite a delay that had a knock-on affect. We used the spare time to make friends with the very small local flying club. [We carried with us a five litre wine box that, with the horrendous price of alcohol in Norway, must have been worth about £70 (\$100) to the locals. Put that on anyone's table and tell them "to help themselves" immediately makes friends!] They passed on their laid-back advice: For them 'good' VFR meant 500 ft; and they didn't bother with Flight plans, "just follow the coast"!

As we were now running behind time, for this once, we partly followed their advice and left simply using the radio. Our destination was **Alesund**. Although we were in contact with area control, because we did not have a flight plan, no-one felt it necessary to report the deteriorating weather at our destination and our arrival at Alesund required a rather difficult Instrument Approach – not least because there is an 800 ft radio tower just 200 ft from the centre line!

Here we broke another of our rules: Not to arrive anywhere after 5:00pm to allow plenty of time to find accommodation. Arriving at 9:30pm meant being at the mercy of a local (expensive) taxi driver who drove us the 14 miles to the town and whose "daughter worked in a hotel" – the best in Alesund!



*Molde airport: Don't land too short or too long!*



*'Good' VMC above the Arctic Circle!*

At that time of night one cannot be fussy and so we enjoyed the luxury and explored the beautiful seaport, which was on our doorstep, in the morning.

Keen to get on, we returned, this time by the Airport bus from outside the hotel, and planned to make the short hop to **Molde**, which was in a fjord 'around the corner'. I had seen pictures of this field and was intrigued by its setting.

Provided one did not land 'short' or too 'long' it was ideal, but for safety's sake I used the ILS. As I did, whilst descending on the extended threshold of 07, I noticed that there was an attractive campsite with log cabins for hire.

We were now beginning to realise just how long Norway is! To accomplish our task we should get going a.s.a.p. So refuelled – and this time with a flight plan – we set off for **Bodo**: a four hour flight. With ATC contact we climbed to 6,000 ft – 'VFR on top'. During the flight Brian, in his inimitable way, commented that we had "crossed the Arctic Circle" but due to the weather had not noticed it on the ground!

We agreed that even in VMC the line would be hard to identify! Again because of the cloud base we did the ILS approach to Bodo. Feeling we now deserved a break we spent time looking at the very impressive Norwegian Aviation Museum ([www.luftfart.museum.no/Engelsk/default.htm](http://www.luftfart.museum.no/Engelsk/default.htm)) to which we were made welcome by the woman at the desk who came from Rainham, Kent before she married a Norwegian pilot!

Our final destiny beckoned: the 50-mile sea crossing to **Leknes** on **The Lofoten Islands**. Here there was only an NDB approach between two mountains into a field that was surrounded by hills on three sides. By creating an 'extension' line of the runway on the Garmin one could double-check the NDB. With something like a

700 ft cloud base we joined a rather tight circuit to land.

Working for 'large international organisations' does have some benefits, and the Catholic Church is no exception! Via email, I had arranged accommodation in the most northerly Cistercian monastery in the world! Not only were we intrigued to see them but they us: since hardly anyone ever visited them! When the young weathered Polish Abbot met us, his first information was that the Community was 'suspending' their activities during our time with them, since they felt it their duty to care for their rare 'guests'. The result was four days under the Midnight Sun with the weather finally so improved that they maintained it was the best they had had on the islands all year.

With beautiful scenery; invited to go fishing; travel to places most 'tourists' never see; and 'free' accommodation & food, together with the Community's car at our disposal: We had fulfilled our mission.

Our flight path back was almost identical to our arrival but with repeated reminders of the Norwegian weather. Our initial departure from Leknes was delayed due to bad visibility at Bodo and it was only when an arriving schedule flight reported that it was 'do-able' did we depart. Even then the cloud base lowered and trying to fly VFR – even over the sea - at 500 ft was scary. I immediately requested to climb for the ILS. When landing we finally broke cloud at 400 ft.

At Bodo we checked the METARS & TAFs and saw that Molde was CAVOK. With this in mind we departed. How grateful we were that we had filed. ATC kept us regularly informed of deteriorating weather and after some three hours flying informed us that Molde was now suddenly closed due to 'a mountain storm'.

Then it hit us: Within a space of three minutes the sky turned from blue to black;



**"The Best day of 2006". Taking a break on The Lofoten Islands under the Midnight Sun**

the hail hitting the plane made speaking almost impossible, and the wind became so violent that a quick glance at the VSI showed I was loosing 1,000 ft a minute. Looking at the charts we opted immediately to divert to **KristiansUnd**. With the innocence of ATC, they asked us to clarify whether I meant KristiansUnd or KristiansAnd (a mere 2,500 miles away – I wonder what kind of tanks they think my PA28 had!)

Without hesitation I asked for the nearest: the weather was deteriorating at a horrible rate; the plane was all over the place and the sooner we were down the better. With torrential down-drafts and wind-shear, a huge cross wind, and ATC informing me that the surface was: "wet, wet, wet", and braking was: "poor, poor, poor"; runway visibility disappearing in sheets of rain; the door seals failing so it was like flying inside a shower; we crabbed in. The airport lounge was crowded with stranded passengers as no commercial flights were going in or out. The hotels of the town were full to bursting because the King of Norway was in town, and it was after eight at night. For once we thought we might have to use our sleeping bags and the small tent we had bought with us. Then, at 8:50 pm, just as quickly as it had started, the rain stopped and clear blue skies appeared: Molde – here we come. We arrived (in pure daylight) at 9:30pm and by 'phoning the campsite obtained the last log cabin that was free.

Next morning we filed for Bergen, and from there via **Stavanger** to **KristiansAnd**. En-route to Stavanger we were cleared direct. Due to the mountains I requested

FL90 which they gave me – a FL at last! After we had been at that height for an hour, Brian Head, my likeable navigator who had been calmness and patience itself on many a hairy approach, enquired what it was outside the windshield that seemed to be coming towards us: It was snow! We mused that it was just 16 hours after Midsummer's Day! As soon as the terrain allowed I requested descent, but even then did not break IMC until we were approaching the coast near KristiansAnd.

It was just our luck that, except for the GPS failure over the sea the next day, the remainder of our flight was perfect and

in VMC. This time we stayed a night at Helgoland; and used Middelburg-Midden-Zeeland ([www.zeeland-airport.nl](http://www.zeeland-airport.nl)) rather than Texel, for our Holland stop. We arrived back at Rochester after 12 days to be informed that England had had perfect weather all the time we were away!

Was it worth it: A big YES! and also some buts:

- ☞ Ensure that you allow plenty of time for being weathered in; Even then, be very current in IMC or IR flying. Remember: although most Norwegian fields have an ILS, due to the mountains, they are sometimes as much as 45° off-set from the centre line!
- ☞ Ensure you have all the plates (VFR & IFR) for all the fields you are passing.
- ☞ "Do as I say, not as I did!" – if you want accommodation, arrive by 5:00pm [due to weather it is often difficult to 'book ahead']
- ☞ Get a Shell (and BP?) Avgas card
- ☞ The flying costs are about the same as the UK (with 'commercial' fuel prices, a little less). Food & Accommodation is much dearer than the UK. As for drink: Don't even think about it – "Sign the pledge, before you leave!"

With some 34 hours of flying in my log book, my wallet may be a little thinner, but my head is crammed full of wonderful memories . . .

*[As always, I am happy to exchange my limited knowledge with others if it might be of use. Just phone me on my mobile: 07970 228762 or email me at: [chaplain@cathsoc.org](mailto:chaplain@cathsoc.org)]*



*View from Log Cabin at Molde at 2:00 a.m.*





By John Pickett

## Definitions for general aviation

Various organizations are trying to re-invent the wheel. The problem is that there are many definitions of General Aviation (GA). The International Civil Aviation Organization, comprising a membership of over 187, defines GA as “all civil Non-Commercial and Non-Aerial Work operations”. “GA comprises all individual, personal civil air transportation and activity while airlines and charter serve scheduled public air traffic.”

The European Aviation Safety Agency (EASA) definition is that General Aviation means all non-commercial activities of aircraft other than complex-motor-powered aircraft. Implied in the definition is the word “unremunerated”.

In many countries of the EU, flight instruction is considered “Aerial Work” and remunerated. We must lobby for a common definition that accommodates current usage of the expression “General Aviation” and removes the anomalies related to flight instruction.

## Galileo

The saga of Galileo continues. It appears that Germany and France cannot agree about funding the project but do agree that it should be funded centrally. The UK apparently wants part private funding integrated with public sources.

Meanwhile, the EU and the USA announced their agreement jointly to adopt and provide an improved design for their respective GNSS signals. These signals will be implemented in the Galileo service and the GPS IIIA new civilian signal.

In a debate in the UK House of Commons it was pointed out that aviation has no alternative method of GPS positioning. Minister for Transport Rosie Winterton was asked to agree that the principle of ensuring redundancy in such an essential navigation system must be right. So is the EU getting into bed with the US and the UK not?

However a Press Communiqué from Europa states “Today’s announcement (by EC Director General Matthias Ruete) underscores Europe’s commitment to interoperability between Galileo and GPS and to managing the Galileo program in an innovative partnership with the United States. The international GNSS community, including the US, will have full and transparent access to information on how to access Galileo and GPS services. This should facilitate the rapid acceptance of Galileo in global markets side by side with GPS.” Is a volte-face detected?

## Aircraft deliveries up but IRs down

As noted in *Intelligence Reports* above, shipments of GA aircraft have increased by 1.7% in the first half of 2007 to 1,883, according to the US General Aviation Manufacturers report. However, the number of Instrument Ratings issued to PPL holders continues to fall (see [www.caa.co.uk/default.aspx?catid=175&pagetype=68&gid=559](http://www.caa.co.uk/default.aspx?catid=175&pagetype=68&gid=559)). EASA is reported to be addressing this problem with proposals for a simplified means of attaining a PPL/IR (see below).

## EASA regulations

EASA has recently published an update of the work of the MDM 032 Working Group:



“A concept for better regulation **in** general aviation.” Meanwhile, it appears that EASA also is moving towards a completely different approach to the regulation **of** General Aviation. (My emphasis.) Different, that is, to the JAA attitude to GA.

EASA agree that the safety issues involving GA are:

- ⌚ Controlled Flight into Terrain and loss of control;
- ⌚ That design related failures are very low;
- ⌚ That Human performance and weather are contributing factors;
- ⌚ That (pilot) incapacitation is marginal and
- ⌚ That the third-party risk is not statistically significant.

EASA recognises that GA forms an important part of the lives of many European citizens and that the general drive in the EC is to reduce the burden of regulation.

The above gives an indication of the way that EASA is thinking. In particular their concept of pilot licensing is safe, practical and cost effective.

The concept is to: Create a European private pilot licence issued by Authorities or assessment bodies:

- ⌚ Covering the full scope of aircraft founded on a stepwise approach and on competence based training;
- ⌚ The licence would be built around a basic common licence to which ratings for different categories of aircraft, operations and specific authorizations would be attached, including **simplified instrument rating and instructor rating**;
- ⌚ There would be no arbitrary restrictions on access to airspace and airports built into the licensing rules;
- ⌚ Medical requirements would be based on risk assessment and consideration given to allowing General Practitioners to issue medical certificates based upon an assessment following a self-declaration signed by the pilot;
- ⌚ ‘Commercial’ flying schools should have the choice of offering training for the “RPPL”.
- ⌚ And finally a bridge with the standard FCL-PPL should be established.

The full update of the MDM 032 Working Group can be downloaded from the EASA website: [www.easa.eu.int/doc/Press\\_Room/A-NPA%2014-2006%2001%2007%202007.pdf](http://www.easa.eu.int/doc/Press_Room/A-NPA%2014-2006%2001%2007%202007.pdf).

## Anomalies in excise duty on avgas

The impending expiry of the derogation of excise duty for private pleasure flying has been widely reported in the UK aviation press. The UK HMR&C recently published a consultation paper. Some other countries in the EU are doing the same.

Currently a reduced rate of excise duty is applied to Avgas. The new rate would apply to all Avgas, whether used for commercial or private pleasure flying, in the same way that the current reduced rate is applied. So a private owner, or the hirer of an aircraft, flying privately, will pay the increased rate. There are some exemptions including training. But only training conducted at an “approved training school” is exempt. No mention is made of registered, group or club training.



## *Helicopter training issues*

The UK CAA has agreed to a temporary change in the training for the IR (H). There has been considerable discussion about the use of Synthetic Flight Training Devices (STDs) that do not represent the type of helicopter used for the airborne training and the IR Skill Test. For example the Joint Aviation Requirements (JARs) require that a type rating is required in the type of helicopter to be used for the IR Skill test before the IR course is started.

So an anomaly is created where a pilot is required to do a type rating in, for example, an Agusta 109, twin turbine engine helicopter with autopilot and a stability augmentation system, then receive 40 hours of instruction in a generic unsophisticated single turbine engine STD and finally go back to the A109 to complete the airborne training and IR test. This is unsatisfactory and leads to considerable loss of positive training transfer.

The CAA recognizes this problem and has issued a short-term exemption from the requirement to complete type-rating training prior to the commencement of the IR course. The type rating training must now be completed before the commencement of the airborne part of the IR training and not before the simulator part.

### *Dichotomy*

Further problems exist at the PPL stage. Under the JAA system a potential Private Pilot Licence holder (PPL (H)) requires five hours dual instrument instruction time.

Since there are very few flight instructors with instrument ratings enabling them to give instrument flying instruction in cloud, the instrument flying instruction may be given in helicopters with approved "blind" flying screens. But there are very few helicopters fitted with such screens. Consequently in the real world the instruction is given using "foggles" or instrument flying hoods.

Recent investigation has shown that a lot of these devices, when used in helicopters, allow peripheral vision and require the pilot to move his head in order to scan the instrumentation. Consequently when pilots trained in this environment are subsequently required to instrument fly in cloud they have problems of scan and spatial disorientation.

The dichotomy – pilots are being trained by flight instructors who are not qualified to fly in cloud in helicopters which are not properly equipped for the training of instrument flying. It appears that most of the instrument flying required during IR (H) training is conducted this way. Consequently, the result is that, when pilots wish to start training for an Instrument Rating, they do not have basic instrument flying skills.

The JAA IR (H) syllabus is based upon the premise that the pilot starting the course has a good standard of instrument flying skills. Personal experience of training potential Instrument Rated helicopter pilots over the last six months has shown that this is not so.

## *Not all training devices are equal*

The synthetic training devices used in Instrument Rating Training are divided into various bands. However there is considerable variation in the fidelity of STDs in a particular band. It is reported that the French DGAC (Direction Générale de l'Aviation) is reviewing its methods of qualifying such devices based upon the qualitative value of the fidelity of the device. The amount of positive training transfer that can be achieved from an ergonomically correct replication of the aircraft is apparently being quantified.

*Pictured above is a sophisticated FNPT2 built into the actual fuselage of an aircraft. Compare it to the STD used for your IR training.*

## Dreamliner luxury

General Aviation? A green Boeing 787-9 – Dreamliner is being delivered to Jet Aviation of Basel in 2011. The aircraft will be fitted out for a VIP customer in the Gulf. The design work for the aircraft's luxurious interior has taken more than two years already. When the design is complete the work on fitting the interior will take 15 to 18 months. The cost is not disclosed! The aircraft will be operated privately.



*With money no object, the options are endless. Pictured above is Lufthansa Technik's proposed master bedroom for a Boeing 787 Dreamliner*

## Language proficiency

The International Civil Aviation Organization (ICAO) is considering a delay in the implementation of the standard involving the requirement for language proficiency for air traffic controllers and pilots. The implementation may be delayed by up to three years. A full ICAO meeting in September will decide.

## The pleasures of GA in Italy!

AOPA Italy has initiated the introduction of a website dedicated to the "advantages and pleasures of General Aviation". See [www.aviazionegenerale.it](http://www.aviazionegenerale.it).

The screenshot shows the homepage of the Aviazione Generale website. The top banner features a small airplane against a blue sky. The main title "AVIAZIONE GENERALE" is in a red box on the left. Below the banner, there is a large headline: "AVIAZIONE GENERALE: I PICCOLI AEREI CHE MUOVONO UN GRANDE PAESE!". To the right of the banner, there are several smaller boxes containing text and images related to general aviation. At the bottom, there is a sidebar with links to "FAQ - Domande e risposte" and "Contattaci". A small logo for "AOPA ITALIA" is visible at the bottom left.

## German flying boats?



A Germany company has developed, and manufactured, a Wing in Ground (WIG) craft. This particular craft will be based in Alaska to provide a unique means of transporting cruise passengers to remote parts of the region. It flies in the ground effect at speeds of up to 80kts.

The USSR has had WIG craft for some time including the Sukhoi OKB S-90-200, which, it is claimed, can operate across the sea at 25% of the normal fuel burn and then climb to high altitude as a conventional aircraft.



Sukhoi OKB S-90-200

The University of Shanghai in China has also developed a craft that can fly at 180 mph in ground effect. They hope to have the craft in use by 2011.

It appears that both a Masters Ticket and an Instrument Rating are required!

## Airbus expects Chinese orders

Airbus has announced that it expects airlines in China to order 113 Airbus A380s over the next twenty years. And an average of 100 to 150 Airbus aircraft each year in the next five years to meet the booming demand for air travel in the world's most populated country. This equates to 3,700 new pilots!

## Lembit Opik

The Liberal Democratic party in the UK recently promoted Lembit Opik MP to Shadow Secretary of State for business, enterprise and regulatory reform. Lembit Opik has proved to be a good friend of General Aviation.



## EU flyers

Eurocontrol has recently published the results of a Survey of Europeans in the 27 countries of the EU. Apparently, 62% of Europeans travel by air and 24% consider airport security control insufficient. Economic growth reached 3% despite oil prices reaching record levels of \$77 per barrel.



# Pilots' Talk

## JAA FNPT simulator discount for PPL/IR Europe members

Simulator Flight Training Limited at Exeter (EGTE) offers a 10% discount off the standard training and IR renewal test fees subject to production of a current membership card when settling the invoice. Enquiries or bookings via Airways Flight Training's office at Exeter Airport on 01392 364216.

## Airfield Updates

Out of the latest issue of Airfield Review from the Airfield Research Group ([www.airfield-research-group.co.uk](http://www.airfield-research-group.co.uk)) comes a round-up of changes to UK airfields. If any readers around Europe know of anything newsworthy to their local airfields please let the editor know.

**Derry Airport** in Northern Ireland, that sits on the border with the Republic near the city of Londonderry, has been closed by the UK Civil Aviation Authority (CAA) as a safety measure.

**Beccles** in Suffolk is one of only two licensed airfields in Suffolk (the other being Crowfield). Beccles has recently undergone a makeover. A new hangar has been erected which houses the aircraft previously kept in a WW2 T2, which is now outside the airfield boundary. Toilet and catering facilities have been provided and the site generally tidied up. It is home to a flying school (Rainair) and several light aircraft and microlights.



Beccles airfield in Suffolk



Oxford's new runway complete with ILS

**Oxford Airport's** new Instrument Landing System is now operational along with a new wider and stronger surface on its 5,095 ft runway.



Airport parking at London City

**London City Airport** has placed a contract worth £19m (\$37.7m) with builders Carillion, for the construction of additional aircraft parking stands. This contract is the largest to be let since the airport was originally built and represents the first major capital programme under new owners AIG and GIP, who took control in December 2006. The contract calls for the construction of a 20,000sq m (65,617 sq ft) concrete platform, supported by piles and built over the King George V dock to the east of the existing terminal, to provide four aircraft stands, bringing the total up to 18. In addition, a sound screen will be incorporated into the platform to minimise any effect of aircraft operations on neighbouring houses.

Construction is expected to start in June, and the new stands will be in service during summer 2008.

**At Manchester Airport** archaeologists have published findings of an important Bronze Age settlement. A dig which was part of the development of Runway 2 uncovered early Bronze Age artefacts and evidence of a settlement at Oversley Farm, located on the lip of the Bollin Valley and overlooking an ancient ford.

Unconnected with the archaeological find is Manchester Airport Authority's action to rename its runways - because the earth has moved! From 7th June, the two runways, which were previously known as 24R/06L (Runway 1) and 24L/06R (Runway 2) became 23R/05L and 23L/05R, respectively. The change is due to a shift in the earth's magnetic field, which means that although the runways may still be on the same alignment on the earth's surface, magnetic north has moved so their compass heading has changed.

The **North Weald** airfield Sector ops block bunker built in 1941 is to be demolished once a company has been approved to build 60 homes on the site and the old barrack area long demolished. The scheme is out to tender and meanwhile the bunker is defaced with masses of graffiti.

## CAA issues guidance for flying GPS approaches

At long last the UK CAA seems to be coming round to accepting the inevitable that GPS is here to stay and that pilots want to use GPS facilities to make instrument approaches. Earlier this year it announced that the GPS approach trials conducted last year had been a success and that official GPS approaches would now be introduced, starting with the airfields that took part in the trials.

The CAA recognises, however, that there are some important differences in the way that pilots fly GPS approaches compared to more conventional approach procedures. It therefore recommends that pilots should receive further training before flying GPS approaches for the first time. It has now published a guide aimed at both pilots and instructors setting out a proposed framework for further training. This covers important

aspects such as:

- ⌚ Pre-flight checks;
- ⌚ Pilot's guide, including interpretation of GPS information. Special mention is made of the fact that the pilot is likely to be presented with the distance to the next way point rather than the more familiar distance to touch down, thereby requiring a greater level of spatial awareness and need to determine a proper descent profile;
- ⌚ Provision of an outline training syllabus and instructor guide;
- ⌚ Example GPS approach checklist, and
- ⌚ A reminder of the main technical components of the GPS system and potential causes of failure.

The guide is called CAP 773, Flying RNAV (GNSS) Non Precision Approaches in Private and General Aviation Aircraft, and is available on the CAA website at [www.caa.co.uk/publications](http://www.caa.co.uk/publications).

## UK environmental protest disrupts Biggin & Farnborough

Although the press devoted most of their coverage to Heathrow, British environmental protesters also blockaded the main entrances to the London-area airports at Biggin Hill and Farnborough in mid-August. The demonstrations were an offshoot of a week-long protest staged at London Heathrow Airport.

At Biggin Hill, passengers and crew had to be temporarily diverted through alternative entrances while police forcibly removed protesters who had chained themselves to the gates. However, an airport spokesman insisted that no flights were delayed as a result of the action. Ten protesters were arrested and charged with aggravated trespass.

Around 18 protesters tried to block the entrance to Farnborough Airport in the morning peak period. The demonstration soon dispersed after the airport opened alternative entrances.

Richard George, a spokesman for the protesters at Biggin Hill, said that the group had deliberately targeted business aircraft passengers. "They are saying they will not only continue to fly, but they will fly in the most carbon-inefficient way possible," he commented. As aviation world-wide accounts for only 3% of annual carbon emissions, one has to wonder what of the other 97% will be their next target. Volcanoes are rumoured to account for 8%, I would support a trip for the protestors to blockade the craters of the world's most active ones.

## UK Civil Aviation Authority fiercely opposes proposed airport charges Directive

Responding to the UK Department for Transport consultation paper on the European Commission Proposal for a Directive on airport charges, which was adopted last January and is presently under review by the European Parliament and the Council, the UK Civil Aviation Authority has recently expressed serious concerns about the added value of the Directive and cautioned about its negative impact on the aviation sector.

According to Stefano Baronci, Policy Manager of ACI Europe, the UK Civil Aviation Authority position should be of special interest for all EU institutions involved in the on-going legislative process. With more than 20 years experience in the economic regulation of airports, the UK Civil Aviation Authority is by far the most experienced national independent regulator in Europe.

The main concerns of the UK Civil Aviation Authority are based on the fact that the Directive would not result in good economic regulation in so far as it would not provide the right incentives to ensure adequate investment in airport capacity and secure the best combination of prices and service for the end users – passengers and freight shippers.

Furthermore, the UK Civil Aviation Authority criticises the way in which the Directive is targeted, its level of prescription and the scale of the overall regulatory burden it would impose. The scope is a particular issue of concern as the proposed arbitrary threshold of one million passenger volume simply ignores the real competition dynamics of the market and fails to focus regulatory action at airports where real problems exists. Indeed, it would result in 144 airports regulated across Europe.

Additional concerns relate to the role to be played by national independent regulators and excessive transparency requirements. By focusing the role of national independent regulators on dispute resolution between airports and airlines without specifying the conditions under which appeals may be introduced, the Directive will not facilitate normal commercial dialogue as dispute resolution would become the norm rather than a last resort option. This would potentially create a culture of conflict between airports and airlines, introducing a great level of uncertainty that would cut across airports' investments incentives.

In this regard, the UK Civil Aviation

Authority rightly notes that such a system "sits oddly with the European Commission's concern about a looming shortage of airport capacity across Europe". The success and development of the European aviation industry depends on the ability of airlines to benefit from sufficient airport capacity in different locations, with different facilities and at different prices. As a result, the need for continued investment in airport capacity must be a cornerstone of any regulatory regime for airports. The failure of the Directive to recognise this essential requirement is likely to impact negatively the development of Europe's aviation sector. On transparency, the far reaching requirements imposed on airports are questioned in so far as they would also prevent normal commercial relations between airports and airlines and add a significant cost burden to the system.

Finally, the UK Civil Aviation Authority considers that the Directive does not comply with the Commission's Better Regulation principles in so far as it lacks an assessment of the nature and specific problems that the Commission is seeking to address. Clearly the UK Civil Aviation Authority does not appear to be convinced about the need and justification for regulating airport charges at EU level – at least not under the terms proposed by the Directive.

Indeed, the Directive appears to be drafted mainly from an airline perspective as it wrongly assumes that the general interest, including the interest of the travelling public, coincides with the interest of the airlines. In doing so, the Directive not only puts at risk the development of the European aviation sector but also the objectives of the Lisbon Agenda.

The need for continued airport capacity investment has been highlighted by the report of the High Level Group for the future European Aviation Regulatory framework which was delivered to Commissioner Barrot earlier this month. The report refers to the need to ensure that Community legislation does not act as a disincentive to airport capacity investment – this is clearly not the case with the proposed Directive.

The full texts of the draft Directive can be found here: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celex\\_xapi!prod!DocNumber&lg=EN&type\\_doc=COMfinal&can\\_doc=2006&nu\\_doc=0820&model=guicheti](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celex_xapi!prod!DocNumber&lg=EN&type_doc=COMfinal&can_doc=2006&nu_doc=0820&model=guicheti) and the CAA's response can be found here: [www.caa.co.uk/docs/589/CAAACDConsultationResponse18June07.pdf](http://www.caa.co.uk/docs/589/CAAACDConsultationResponse18June07.pdf).

## Meeting with the Parliamentary Aviators Group (PAG)

By Paul Draper

I recently attended (with Roger Hopkinson of PFA), a briefing session with the Parliamentary Aviators Group (PAG) in preparation for their forthcoming meeting with the CAA to discuss current topics.

Julian Brazier MP, Shadow Minister for Transport (Aviation and Shipping) joined us during the brief and Gerald Howarth MP joined at a later stage. Lord Rotherwick (now a member of PPL/IR Europe) has been, and continues to be, the main contact for PAG and moves it forward whilst keeping in touch with us.

The net result was that we discussed all the expected current topics and we ensured that they acknowledge some efforts are being made by the CAA to liaise with GA even if there are areas for improvement. They were, inter alia, to ask what is the overall CAA plan for GA in the future? Is the CAA carrying out audits of their consultations per Cabinet Office Better Regulation guidelines? Is the CAA pursuing obtaining better data - eg current active pilot numbers etc etc?

We were asked by Julian Brazier for a briefing document to allow him and colleagues to have a debate in the House of Commons in October as to the need to have a thriving GA industry sector in the UK. In that connection he wants evidence of how the sector contributes to UK plc, and has done so in the past. For example mention was made of a decision by some large finance companies to base in the UK rather than Frankfurt (a while ago) due to its major airport interchange facilities; if any of you have any evidential information on that decision I would be glad to receive it.

As part of the discussions we covered the need for a higher level approach to the overall problem e.g. shouldn't the Government acknowledge the findings of the Transcom Enquiry and GA's concerns by appointing a non-executive director at the CAA who would be a "guardian for GA" and ensure thereby that GA is considered properly in their deliberations/ decisions?

We have since prepared a document that might be used for a "generic" briefing by them or others (in case the Government or Shadow Ministers membership changes yet again) and it has been written using "links" to web pages / documents so that they can refer to them rather than using much descriptive wording; we shall see how this principle works in practice!

Incidentally we have since learned the DfT is working on the Government's Transcom Enquiry recommendation that there be a "root and branch" overhaul of the CAA; more on this is likely to be forthcoming in the Autumn. Meantime it has to be acknowledged the CAA is being much more cooperative and proactive of late in its approach to GA. That does not mean we or they are agreeing with all that is proposed but it does mean they are listening to us on various matters!



## Directors of PPL/IR Europe

<b>Jim Thorpe</b>	<b>Roger Dunn</b>
<i>Chairman</i>	<i>CAA GA Strategic Forum Team Member</i>
✉ +44 1989 770355	✉ +44 1622 814896
✉ +44 1989 770511	✉ +44 1622 817115
✉ chairman@pplir.org	✉ R.Dunn@btinternet.com
<b>David Bruford</b>	<b>Steve Dunnett</b>
<i>Press Secretary</i>	<i>Meetings Secretary</i>
✉ +44 1823 461 310	✉ +44 2920 875 188
✉ +44 1823 461 928	✉ +44 2920 876 749
✉ editor@pplir.org	✉ meetings@pplir.org
<b>Ian Chandler</b>	<b>Anthony Mollison</b>
<i>Secretary &amp; Treasurer</i>	<i>Pilot Training Specialist &amp; BBGA Representative</i>
✉ +44 1702 200 353	✉ +44 7813 678373
✉ +44 1702 354 488	✉ +44 1202 574020
✉ treasurer@pplir.org	✉ anthony.mollison@fsmail.net
<b>Paul Draper</b>	
<i>NATMAC, PAG, GAA &amp; EAS Representative</i>	
✉ +44 1962 850775	
✉ paulr.draper@yahoo.co.uk	

## Members of the Executive

<b>Vasa Babic</b>	<b>Ian Hunt</b>
<i>DfT EASA Forum Representative</i>	<i>Instrument Pilot Editor</i>
✉ +44 777 557 0000	✉ +44 1446792286
✉ vasa_babic@hotmail.com	✉ +44 1446774494
	✉ theeditor@pplir.org
<b>Peter Bondar</b>	<b>Andrew Lambert</b>
	<i>Membership Secretary</i>
✉ +44 1845 501 062	✉ +44 7836 793266
✉ +44 1845 501 067	✉ +44 1428 751654
✉ peter@bondar.co.uk	✉ andrew.lambert@ems-uk.com
<b>Dirk DeJonghe</b>	<b>Timothy Nathan</b>
<i>Belgium Representative</i>	<i>Web Site Editor</i>
✉ +32 5635 0710	✉ +44 1372 812 469
✉ +32 5635 0780	✉ +44 1372 747 778
✉ dirk@color-by-dejonghe.com	✉ webeditor@pplir.org
<b>Derek Fage</b>	<b>Eugenio Pozzo</b>
<i>Web Master</i>	<i>Italian Representative</i>
✉ +44 1534 861372	✉ +39 348 300 6906
✉ +44 1534 752301	✉ +39 041 810 9917
✉ webmaster@pplir.org	✉ eupozzo@tin.it
<b>Ian Harnett</b>	<b>Alan South</b>
<i>AIWG Representative</i>	<i>DfT SES Forum Representative</i>
✉ +44 1582 833196	✉ +44 1763 838465
✉ +44 1582 834592	✉ +44 1763 838465
✉ irharnett@aol.com	✉ alan@littlewissett.eclipse.co.uk

## Membership Administrator

Sali Gray  
✉ +44 1452 618899      ✉ memsec@pplir.org

Annual accounts for the company are available on the website. See [www.pplir.org](http://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](http://www.pplir.org) – Lobbying



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.

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**Editor**

Ian Hunt

Editorial e-mail: [theeditor@pplir.org](mailto:theeditor@pplir.org)

Website: <http://www.pplir.org>

**Art direction & production**

Paul Turner

[paul@exec-flight.co.uk](mailto:paul@exec-flight.co.uk)

**Printing and distribution**

Lithocraft Ltd

35a Dane Road, Coventry  
West Midlands, CV2 4JR

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## Living with the DA42

continued from page 2

these days, plus a serious annual workout compared to the usual quick pop-around-the-block most SEP validations seem to entail, tends to push DA42 pilots above those required to qualify for the Cirrus SR22.

Talking of double engine failures, Diamond have now addressed the issue with yet more batteries, now up to 5! The new MSB calls for two 1.2, 12v batteries to be placed next to the ECUs to protect them from transients when you do insist on taking off with a completely flat battery having failed to follow the ground start procedures and then trying to raise the gear, against the specific advise of the AFM. That's in addition to another of those two blighters keeping the alternators alive if all else has failed!

The wet summer in the UK has shown that little tyres inflated to 65 psi are not happy when pressed into sodden grass by 1,785 kilos but hey, it's not a Husky! On the other hand, cross winds are very manageable on bigger runways; my best so far is 27 gusting 39 straight across! Why do they build airfields on top of hills?

### Other observations?

It is very interesting to see how our customers acclimatise to the TwinStar. Irritatingly, young pups tend to take to it very well; their transition times tend to be low and they rapidly assume the correct Game Boy position with the G1000 system. Generally the old duffers tend to struggle, getting their head around a predominately software driven plane just fries their brains. Video recorders anyone?

Having said that our fastest ever check record is held by a more senior member of PPL/IR Europe who happens to be current on a number of turbine aircraft. We reckon that 10 hours time is the minimum for VFR



operations and 20+ hours for IFR.

I've done around 140 hours and I'm still honing my skills. Things tend to be OK until things go wrong (was it ever thus?) Having carefully programmed the G1000 with the solution, ATC changes runways and then all hell breaks loose with a frantic set of button pushes. Again without a good autopilot this would be very hard work single pilot.

### *It is a 100% electric plane littered with computers*

The autopilot is the KAP140, much berated but it has performed flawlessly until one customer fried its brain. It has never let go and given up despite some pretty demanding turbulence. The new Garmin system is supposed to be much better, with more authority, speed control and other esoterics. The down side is that if you lose one of the dual processing units that create a G1000 system its goodbye just when you need it. The KAP 140 does have the benefit of being autonomous from the G1000 so losing the G1000 does not create a failure for the KAP140 or vice versa.

We have had a number of operating issues; the brakes are very good, so good that one pupil locked them up to the point where he wore through and burst the tire, the previous

record was a flat spot to the canvas!

One pupil switched the fuel off in flight which you never do in a simulated engine failure. £3,730 later the instructor decided to be more careful mentoring his pupils as we

had to replace the high pressure fuel pump. Never ever let a diesel engine run dry!

One customer has precipitated a number of problems by not thinking things through; it is a 100% electric plane littered with computers so one thing it does not like is pilots messing around with the electronics inappropriately.

The ECUs are paranoid of any threats to their integrity so switching them off and back on will confuse them, thinking there has been an interruption to their electrical supply.

The autopilot didn't like it when it was online and somebody, having flattened the battery, then tried to start the engines; the voltage spike promptly fried its theoretically non volatile memory!

One of the great things is that with all these computers running you can find out what your customers were doing to your baby when you weren't looking. The diagnostics have been very useful in some post event analysis.

The engines are 1.7 litre units pumping out 135hp each. They are officially rated for 2,400 hours for economic/warranty purposes and their current TBR is 1,000 hours. Word on the street is that they will be all swapped out for the new 2.0 litre units still making 135HP. These are already rated at 1,200 hours TBR. Yep, no improvement in performance but better longevity?

Because of the warranties the cost of the swap out is linearly related to usage so it won't hurt users anymore than they could have expected apart from those teetering around the 1,000 hour mark who are looking at around £18,000 as the cost of two half-life renewals.

So to conclude; is it a great plane? Yes. Is it perfect? No. Would I recommend it to others? Absolutely! Will my next plane be a single? No!

*Peter operates Papa-Bravo Aviation offering rental and type conversions. He can be found at [peter@papa-bravo.com](mailto:peter@papa-bravo.com) or visit [www.papa-bravo.com](http://www.papa-bravo.com) for more details.*

