AUGUST 2009 No.176

GUILD NEWS

THE GUILD OF AIR PILOTS AND AIR NAVIGATORS

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PATRON:
His Royal Highness
The Prince Philip
Duke of Edinburgh KG KT

GRAND MASTER:
His Royal Highness
The Prince Andrew
Duke of York KG KCVO

MASTER:
Rear Admiral
C H D Cooke-Priest
CB CVO FRAeS

CLERK:
Paul J Tacon BA FCIS

The Guild, founded in 1929, is a Livery Company of the City of London.
(Letters Patent 1956)

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Guild Diary

AUGUST 2009		
2	Garden Party	Old Warden Military Pageant
6	Aptitude Assessment	RAF Cranwell
SEPTEMBER 2009		
8	3rd Technical and Air Safety Committee	Cobham House
10	5th General Purposes and Finance Committee	Cobham House
10	3rd Court Meeting	Cobham House
29	Election of Lord Mayor	Guildhall
30	Guild Luncheon Club	RAF Club
30	Sir Frederick Tymms Lecture	Royal Aeronautical Society
OCTOBER 2009		
8	Aptitude Assessment	RAF Cranwell
13	3rd Education and Training Committee	Cobham House
15	6th General Purposes and Finance Committee	Cobham House
29	Trophies and Awards Banquet	Guildhall
31	Flyer Show	Sofitel, Heathrow
NOVEMBER 2009		
3	4th Technical and Air Safety Committee	Cobham House
3	Benevolent Fund Board of Management	Cobham House
12	7th General Purposes and Finance Committee	Cobham House
12	4th Court Meeting	Cutlers' Hall
12	Scholarships Presentation	Cutlers' Hall
13	Silent Change	Guildhall
14	Lord Mayor's Show	
16	Lord Mayor's Banquet	Guildhall
	St Cecilia's Festival	St Paul's Cathedral
DECEMBER 2009		
1	5th Education and Training Committee	Cobham House
3	Aptitude Assessment	RAF Cranwell
11	8th General Purposes and Finance Committee	Cobham House
11	New Member's Briefing	Cobham House
11	Guild Carol Service	St Michael's Cornhill
11	Christmas Supper	The Counting House
18	Guild Closes	
JANUARY 2010		
5	Guild Opens	

Guild Visits Programme

15 September	Brooklands, Weybridge
7 October	Blades, Sywell
27 October	Naval Strike Wing, RAF Cottesmore

Please see Flyers accompanying this and previous editions of Guild News or contact Assistant Michael Glover at MJAG2001@aol.com

Cover picture: The Flying Heritage Collection's (FHC) meticulously restored Spitfire Mk. VC in flight. FHC features the exquisite flying aircraft collection of Microsoft co-founder Paul G. Allen and is housed at Paine Field, north of Seattle in Washington State in the US. This Mk. V entered service with 312 Squadron in November 1942 and had its longest service with this Czech-manned unit in whose colours it flies. This is the only flying Mk. V in North America and is part of an elite stable at FHC that includes iconic aircraft from several nations.
(Photo courtesy of John Dibbs and The Plane Picture Co.).

CONTENTS

In this edition of Guild News

Page 4 News Round Up

Page 5 The Master Writes

Page 6 Clerk's Column and Gazette

Page 7 Guild Technical News

Page 8 Guild visit to Airbus Industrie

Page 10 Pillars of Fire

Page 12 South Pacific Safety Management Systems Symposium

Page 14 Guild Visit to RNLI Poole

Page 16 Do you REALLY understand how your trim works?

Page 20 A Barn With A History

Page 22 Sailing the World for Flying Scholarships for the Disabled

Page 23 The Flying Heritage Collection, Paine Field, Everett, USA

Page 24 A Powerful Flight-Test Programme

NEWS ROUND UP...

Queen's Birthday Honours.
Congratulations to the Master, Rear Admiral Colin Cooke-Priest, who was awarded the CVO in the Queen's Birthday Honours List, for his services as Gentleman Usher to the Queen. Congratulations also to Tim Prince, Director of RIAT and founder of RIAT Flying Scholarships for the Disabled, who was awarded the OBE.

Inter-Livery Clay Shoot, 21st May. Once again the weather for the annual Inter-Livery Clay Pigeon Shoot was glorious, this being the tenth year that the Guild has entered a team to shoot at the prestigious Holland and Holland shooting ground near Ruislip, Middlesex. The Guild was only able to field one team this year, but it did exceptionally well, coming second in the 'non-full Livery team' category and sixth overall. The highest shot of the day for the Guild was Colin Wright with a personal score of 61 out of 80, and his wife Margaret came third in the Ladies High Gun with a score of 50.
A lunch of roast pig and an extensive buffet were included in the price, as were all clays, cartridges, guns and insurance. Liveryman Andrew Bunn hopes that next year the Guild will be able to field a full Livery team and maybe even a Past Master's team (Dr Ian Perry could not shoot this year). Non-shooting guests and novices are always welcome; the staff manning the stands are all Olympic level instructors so those participating will always break clays. Those interested should keep next year's event, 19th May, free in their diaries.

Italian ATCO Receives Freedom of the City. Upper Freeman Adriano Covizzi, an Italian Air Traffic Control Officer working with ENAV SpA, received the Freedom of the City of London on 11th May. He is seen here with the Clerk of the Chamberlain's Court and Alderman and Past Master David Mauleverer at the ceremony, which demonstrates the accessibility of the Freedom of the City to any member, whether from the UK or overseas.

SBW Visits Northolt
On a recent July Friday evening The South Bucks Wing temporarily relocated from its customary meeting place, the Stag and Hounds in Farnham Common, to RAF Northolt. Beer and a large plateful of calories (bangers and chips) were consumed in the newly and lavishly refurbished Officers' Mess, courtesy of a kind invitation from SBW member Squadron Leader Chris Ford, during our weekly deliberations.

Left to right – IPM Rick Peacock-Edwards, Liveryman Owen Cubitt, Freeman Alex Whitburn, PM Roger Gault, Assistant Mike Glover, Assistant Chris Ford.

Cody Picture Presentation Liveryman Peter Adams, Lord of Abbots-Hay, recently flew to Middle Wallop to present a framed picture of Cody's first flight in this country to Colonel Bill Sivewright of the Army Air Corps. The picture was one of a limited issue of 30, commissioned to celebrate 100 years of powered flight in this country, and was signed by Lady Thatcher, Vera Lynn and Cody's 2 great grandsons. It will be auctioned by the Army Air Corps to raise money for Service charities.

Peter Adams presenting the picture to Colonel Sivewright.

Guild Team Plays Golf With Red Arrows.
On 4th June eight members of the Guild Golf Society made their way to Gainsborough Golf Club for a match with the RAF Red Arrows. The 6.30 am start was no problem for the seven from the London area nor for David McDonnell who came down from the Lake District for his first Guild golf event. Playing better-ball pairs, the Guild's team set out to show that age and experience was more than a match for all the other advantages that the 'Reds' held, and with three games completed the score stood at one won (John Robinson and David McDonnell), one lost and one halved. Sadly the Guild lost the fourth and final game, but the team had made a match of it and the event was enjoyed equally by both sides. Wing Commander Jason Hawker and his team were generous and friendly hosts and the day was a memorable one that it is hoped could become a regular fixture. The Guild team's sincere thanks go to the Red Arrows for making this event possible.
The day had been offered free by the Red Arrows, so the Guild members paid a fair Society rate for the golf and thus raised £400. Put with the £200 already given by the Guild, this has enabled a seismometer to be placed in our 'partner' school, the City of London Academy, Islington, as part of a programme initiated by Imperial College, London, to place 50 in schools in the south of England to encourage interest in science subjects. The seismometer has been delivered (in kit form) but it is hoped that a presentation day in October can be arranged in which the Red Arrows will be involved; that possibility has been greeted with enthusiasm by the staff.

The Guild team with the Red Arrows. From left to right, Bill Straghan, Gil Gray, David McDonnell, Keith Warburton (holding the framed and signed photo he won for being Nearest-the-Pin), John Robinson, Wg Cdr Jason Hawker, Bob Seed, Wally Epton, and John Mason.

New CAA Chief Executive.
The Secretary of State for Transport, Lord Adonis, has appointed Andrew Haines as the Chief Executive of the Civil Aviation Authority after an open competition. Mr Haines will be the first holder of this newly-created post, following the recommendation put forward by Sir Joseph Pilling in 2008. For further information see *www.caa.co.uk*.

Erratum. Unfortunately there was an ommission in the April Guild News Gazette. Assistant Michael Glover's name was inadvertently left out of the 2009 Court List. Neither the Editor or his proof reading helpers picked this error up, for which they humbly apologise.

The Master writes ...

COLIN COOKE-PRIEST

As those of you who attended the Livery Dinner already know, the final report of our Strategic Review will very shortly go to print. Indeed the time lines which drive these Master's Messages are such that the report may well arrive pretty much simultaneously with this edition of the Guild News. For those of you, the majority, who were not at the dinner I highlighted the need to create a 'Nonsense Watch' as a means of correcting the arrant nonsense or half-baked drivel that frequently masquerades as informed comment on aviation matters in the media and, in so doing, drawing attention, over time, to the Guild as a first port of call for informed information and comment. We are already taking the necessary steps to set this up.

Perhaps of even greater importance than individual aviation 'nonsenses', however greatly they need to and should be corrected, is the requirement to produce a credible and co-ordinated rebuttal to the green anti-aviation lobby; for to allow to continued unchallenged the distortions contained in so much of what is currently written and said, could well result in disastrous, if unintended, consequences! Many of the issues are articulated in a balanced and unemotional study – 'Aviation – the real world wide web'- produced recently by Oxford Economics. I want to draw on two examples. A new addition to the Dictionary of Modern Usage would appear to be the term 'food miles', frequently used by the current glut of TV 'celebrity' chefs to enjoin us to use only home-grown produce. But, as has been pointed out, driving half a dozen miles to buy your shopping emits more carbon than flying a pack of Kenyan green beans to the UK. It is equally relevant, as an example, that Kenyan farming contributes very little to global warming. They use people to weed the fields. They don't use tractors to produce the food that is exported. A vegetable that grows easily in the African climate might well be grown in Europe under hothouse conditions but this would generate considerably greater net emissions than those resulting from the 'food miles' of transporting the produce between continents. Similarly the use of fertilisers to make growth possible, or to increase crop yields has been clearly linked to higher GHG emissions. I quote these two examples simply to highlight the fact that emission patterns are highly complex. The simplified concept of 'food miles', measuring only the distance the food has travelled from field to retailer, produces distortions that could well result in inappropriate decisions.

Aviation is estimated to be responsible for around 2% of global CO2 emissions. However, any discussion about carbon costs should equally, but rarely does, include the benefits that air transport brings worldwide. Oxford Economics estimates that the air transport industry directly employs more than 1.2 million people in the Asia-Pacific region and contributes US$ 60 Billion to GDP, more than seven times as productive as the economy as a whole. For Europe the figures suggest 1.6 million directly employed and an industry about 50% more productive. If aviation was a country it would rank 21st in the world in terms of GDP! So realistically, given the global impact on living standards, the elimination of GHG caused by aviation is neither politically nor economically desirable, still less viable.

Whichever way you look at it aviation is part of a wide and highly interdependent national, regional and global transport system. The 'Greener by Design' initiative suggests that, even at the highest forecast levels of growth, the carbon footprint of aviation will be lower than for cars and shipping. Targeting aviation promises an easy solution but misses the need for a strategic approach to moving people and goods.

So why should aviation continue to be the whipping boy for facile political and 'green' point scorers? I come back to where I started, our Strategic Review. One of its findings is that the voice of the Guild, and its enormous store of aviation knowledge and experience, should be more widely heard. I have drawn on the Oxford Economics Report to highlight just a fraction of the many and complex issues surrounding GHG emissions and to show how badly the aviation fraternity needs to generate a co-ordinated and robust response. It is an area in which I believe the Guild both could and should take a lead. Because of this we have decided that the T&ASC sub-committee that currently covers 'green' issues should be re-formed as a third professional committee, to be known as the Environmental Committee, fully fledged in its own right. The IPM has agreed to take the lead in forming the new team and is already drawing together appropriate people from both within and outside the Guild. They will meet in the near future to start formulating an agenda for action.

By the time you get to read this we will be firmly into August and, for many, the Summer holiday break. I, together with Sue, will be making the Master's inaugural visit to our newly formed Canadian region to which we both look forward enormously. I look forward to reporting on this auspicious visit in the next issue. Meantime may we wish you all a happy and relaxing Summer break.

Postscript: The Strategic Review Report that accompanies this edition of Guild News is the result of a long and thorough investigation into all aspects of the Guild and its activities. The fact that there are no large-scale or dramatic changes recommended or detailed in the report is not indicative of a superficial review process; it merely indicates that the Guild is already in a healthy state and that there are only relatively modest changes required to improve on the manner in which the Guild currently conducts its 'business'. Many of the recommendations have already been implemented or are in hand. The Review was exhaustive and I commend to all members to read the Report carefully and thoroughly.

SEEKING A NEW GUILD VISITS ORGANISER

In the October 2008 issue of Guild News Assistant Mike Glover explained his plans to "retire" from the responsibility of running the Guild Visits and Garden Parties programme at the 2010 AGM. In the meantime a small team has been assembled to help in the job of arranging individual visits this year. Assistant Chris Ford has arranged and run three of these; Martin Baker in May, RNLI in June and Brooklands to come in September. Upper Freeman John Davy and Liveryman Hugh Dibley organised the very successful three-day visit to Airbus and RAeS in Toulouse in May, and Past Master Arthur Thorning will be taking a group of us for a morning visit to the "Blades" Aerobatic Team at Sywell in October.

This assistance has been very welcome but hasn't solved the problem of finding a successor. Any one of these members could well do the job but unfortunately, due to a variety of other commitments, not one is able to take overall co-ordinating responsibility for the programme at this stage. **So, we urgently need a volunteer! Anyone interested, please contact Mike Glover so he can explain in detail what the job entails.**

Clerk's column

PAUL TACON
Learned Clerk

'NONSENSE WATCH' Some of the 'expert' comment on aviation matters that is presented on TV or published in the main-stream press (the 'Dailies') is ill-founded, unjustified or just plain wrong. One method by which the Guild can 'put the record straight' is by a 'nonsense watch'. As and when the opportunity arises, the Guild will try to help inform the public by offering knowledgeable rebuttal or comment and correcting the 'received wisdom' about any particular report or incident, or on aviation matters generally.

If any member hears or reads any comment or opinion which purports to be 'expert' but which you know is not correct - because you have much more in-depth expertise on the matter in question - please contact the Guild office (by email) with your comment and we will endeavour to correct what has been reported by contacting the TV station or newspaper concerned and offering your informed comment.
In due course, it is hoped that these comments submitted by the Guild may eventually help to establish a position of 'professional respect' for the Guild within the media and that it will become the first port-of-call for comment - and, by extension, be able to defend publicly the interests of aviation generally and of aviators in particular.

WEBSITE As you will all appreciate, the new website is up and running. It is becoming, and will continue to evolve as the Guild's primary tool for dissemination of information to members, as well as to the general public.

However, we are not able (or rather, do not wish) to send everybody an email every time we add or change information on the website. Therefore, if you wish to know what the latest postings are on the website, it is important to access it regularly. That way, you will keep abreast of the latest Guild information or other aviation developments and news that the Guild is able to pass on via its website.

RSS FEEDS RSS feeds can be found in 3 locations on the new Guild website:
'Press Releases' (within 'Press Pages') and within 'Members Pages'

'Stop Press' - contains new items of note for the attention of Guild Members.

'Other Events of Interest' – non-Guild events which may interest Guild Members.

An RSS Feed will automatically update the specific webpage to which it is connected and show the latest items for that page each time you access the particular 'feed' – without having to log-on to the website each time.

For those who may wish to use this facility but not familiar with the use of RSS feeds, the Guild office can email you some brief 'instructions' if requested.

CITY BRIEFINGS The dates for the briefings held by the Corporation of London for new Liverymen and spouses are listed on the following website. Please note that all attendance applications and payments for all courses must now be made using this website: *www.liverycommitteecourses.org*

LORD MAYOR'S SHOW GRANDSTAND TICKETS Tickets in the Grandstand at St Paul's for this year's Lord Mayor's Show can be obtained (cost £27) in one of the following ways:
Online: *www.lordmayorshow.org*

Telephone: 01908 300106,
lines open Mon to Fri 10.00 to 16.00

Post: enclosing a cheque (payable to Tickets.com Ltd) and giving your name, address and telephone to:

Samantha Lee
Tickets.com Ltd
Elder House
570-578 Elder Gate
Milton Keynes MK9 1LR

Gazette

APPROVED BY THE COURT ON 16h JULY 2009

ADMISSIONS
As Upper Freeman
Christopher Dennis BROWN
Commander Mark Vincent CARETTA
Air Commodore Keith DENNISON
Wing Commander
John Charles GRIFFITHS (AUS)
Group Captain
Timothy Chetnole HEWLETT
Squadron Leader
John Martin George JONES
Captain Wayne Gordon JONES (AUS)
Mark Laurence MURPHY
Captain Arild RAMBERG (OS)
Captain Peter Trevor READING
James Michael SHEPARD
Brendan John SWEENEY (OS)
Captain John Patrick TOWELL

As Freeman
Craig Kenneth CAMPBELL (CAN)
John Charles Edward KELMAN (AUS)
Nigel Anthony OATES
Pauline Ann VAHEY

As Associate
Nicholas LOWE (GYM)
Subhajit SENGUPTA (GYM)

ACKNOWLEDGED BY THE COURT
16 July 2009

REGRADE
To Livery
Gary LUI (HK)
Captain Michael Charles DAVIDSON (HK)
Sarah Caroline HOLT
Squadron Leader
Douglas Frank ORCHARD

DECEASED
Captain John Stephen FAIREY
Captain Douglas Hopton HADLEY
Leopold HEIMES
Captain Leslie INGHAM (OS)
Captain John LEAKEY
Kenneth Hugh WILSON

RESIGNATIONS
William BRISTOW (AUS)
John Alexander BROMPTON
Bruce John CARROLL (AUS)
Ka Fuk Richard CHEUNG (HK)
Lyndon DAVIDGE (NZ)
Evan John DAVIES (AUS)
Rodney Michael EARLE (AUS)
Simon Thornton HENDERSON (AUS)
Trevor George JENSEN (AUS)
Ross Trevor JOHNSON (NZ)
Barry John KELLY (AUS)
Richard Matthew MACARTHUR-ONSLOW (AUS)
Barry Julian MILES (AUS)
Michael Kevin O'NEILL (HK)
Malcolm PRISSICK
Ken TREVILLIEN (AUS)
Ilka TREVILLIEN (AUS)
Robert James WHITE (AUS)

Guild Technical News PAST MASTER CHRIS HODGKINSON, TECHNICAL DIRECTOR

NON JAA UK LICENCES Advice from the CAA confirms that under the current proposals the new European rules intend to deem a licence issued in accordance with JAR-FCL to be issued under Part FCL and hence no action will be necessary for the holders of these licences to convert to EU Licences when they come in. Any other licences will be national and would need to be converted to a Part FCL licence. To do this, CAA will need to look at the requirements for the equivalent licence and it may be possible that some additional hoops may have to be jumped through. Human performance springs to mind as it was not a theoretical knowledge requirement for the national licences until fairly recently, and certainly not in the Board of Trade days.

For this reason once the requirements have been finalised CAA expect to be advising holders of national licences to convert to the JAR-FCL equivalent prior to the implementation date as this process is straightforward and with no additional requirements if the licence is current. **CONVERTING NOW MIGHT SEEM SENSIBLE.**

VOLUNTEER REQUIRED - GENERAL AVIATION AWARENESS COUNCIL (GAAC) The GAAC does an invaluable job in trying to protect existing airfields from closure and advising those 'under attack'. The GAAC meets a maximum of 4 times a year. If anyone is interested in becoming the Guild Nominee to this very helpful body, please email the office.

COLLISION AVOIDANCE FLARM is a system of low-cost avionics providing selective warning for potential collisions between light aircraft. FLARM (the name derives from 'Flight alARM) obtains its position from an integral GPS and a barometric sensor and then broadcasts this with forecast data about the future 3D flight track. Its receiver listens for other FLARM devices within typically 3-5 kilometres and processes the information received. Motion-prediction algorithms predict potential conflicts for up to 50 other signals and warn the pilot using sound and visual means. FLARM can also store information about static aerial obstacles, such as cables, in a database. Unlike conventional transponders in aircraft, FLARM has a low power consumption and is relatively cheap to buy (570 euro plus tax) and to install. FLARM only gives selective alerts to aircraft posing a collision risk. However the short range of the present power output makes FLARM unsuitable for avoiding collisions with fast moving aircraft. Currently it is mainly used in sailplanes and helicopters. The product featured prominently at the recent giant Friedrichshafen Air Show.

UK and EU AIRFIELDS Following extensive work with the EU Commission and Parliament, Europe Air Sports has announced that most airfields in the EU used for light aviation will be outside the scope of EASA. The European Parliament has voted to exclude aerodromes mainly used for sports and recreational flying from common European rules.
European rules will only apply to those aerodromes, open to public use, "which serve commercial air transport and where operations using instrument approach or departure procedures are provided … and have a paved runway of 800 metres or above". Furthermore any individual Member State may, by way of derogation, exempt any particular aerodrome, which "handles no more than 10,000 passengers" and "or more than 850 cargo movements per year". Some good news for a change?

MORE GOOD NEWS? MODE S. For those who only fly in UK airspace, there is a possibility that the the CAA may not after all require Mode S in all UK airspace. However, more and more EU countries are mandating such carriage.

AVIATION DATABASES ICAO, the UK Flight Safety Committee and the Flight Safety Foundation have collaborated to produce SKYbrary (*www.skybrary.aero/landingpage*), describing itself as 'The single point of reference in the network aviation safety knowledge. Hyperlinks to SKYbrary and the Rockwell Collins 54 page Glossary of Aviation terms, may be found on the new Guild website.

UAV/UAS UNMANNED AERIAL VEHICLES or SYSTEMS There is a debate under way as to how these 'aircraft' can be operated both inside and outside controlled airspace. In simple terms the current requirement is that they should pose no more risk than a manned vehicle – but is that realistic and how does the risk vary? If you are knowledgeable in this area and/or you wish to be involved in the preparation of Guild policy, please contact the Technical Director.

SQUAWKS

'Listening Out' squawks & frequencies are:

Birmingham	**0010/118.05**
Doncaster	**6170/126.225**
Gatwick	**0012 126.825**
London City	**0012/132.70**
Manchester	**7366/118.575**
Stansted	**0013/120.625**
Luton	**0013/129.55**

IMPORTANT NOTICE FOR ALL LIVERYMEN *STANDING FOR ELECTION AS ASSISTANT*

As members will be aware, the Court of the Guild has 15 Assistants, each of whom is elected by the membership for a three year term. The ballot to elect Assistants takes place each year (with approximately one third of Assistant places available) and runs from December, when ballot papers are distributed, to March when the results are announced and newly elected Assistants (and those re-elected) are installed at the AGM.

However, many Liverymen are unaware of what is involved in being an Assistant. In order to ensure that any Liveryman who is potentially interested in standing as an Assistant is aware of what is involved, and can therefore make a more informed decision on whether to stand, a Briefing will take place annually at the Guild office, prior to the call for nominations being distributed. The inaugural Briefing will be at 16.00 on Friday, 23 October. The aim of the Briefing will be to explain the role and required commitment of an Assistant and to answer any queries that any potential candidates may have.

All Liverymen who feel that they may wish to stand as a candidate for election are invited to attend the briefing and are asked to confirm by email to the Guild Office if they wish to attend.

The date of the Briefing is before the deadline for submission of Candidacy Forms (which will be distributed with the October edition of 'Guild News'). The aim being that a Liveryman can decide after having attended the Briefing whether or not to stand, and therefore, whether to submit a Candidacy Form. Following the Briefing, those who still wish to stand should submit their Candidacy Form (if they haven't already done so) to the Guild Office by the deadline given on the form.

Please note: Liverymen can stand for election without having attended the Briefing – ie attendance is not a pre-requisite to being a candidate. But for those who have not previously served on the Court the Briefing should prove informative and of benefit.

The Ballot Papers, containing the names of all candidates for election and re-election, will be distributed (as usual) with the December edition of 'Guild News'.

P J Tacon, Clerk

Visit report on the Guild Visit to Airbus Industrie, May 2009

Monday - Airbus, Tuesday - Broken Bus

UPPER FREEMAN JOHN DAVY

So, after 6 months of planning, 52 Members and guests presented themselves in Toulouse on Sunday 17th May ready to visit the Airbus facility at Blagnac the following day

I'll have to start with an apology. Cameras were officially banned during the factory visit. Nevertheless, this was relaxed in the Flight Test hangar, of which more later.

Sunday evening commenced with glasses of wine in the Patio Area of the Crowne Plaza hotel followed by dinner in the restaurant. Soon, readers will discover how important "wining and dining" were during this three day visit, which included a single, albeit very long, day with Airbus. Thankfully, our wallets were not depleted totally by the costs of all this as the wine, both tonight and for Monday and Tuesday's dinners, was arranged by Liveryman Hugh Dibley, coming direct from "Vignoble Arbeau" and at cost price. Furthermore, it even bore "GAPAN" labels!

Monday- Airbus

Monday dawned very bright and sunny, and the "blazers, no ties" recommended garb was appreciated, especially as the bus, kindly provided by Airbus, was found parked about 600m away!

Once at Blagnac, having exchanged our passports (or photocopy in one case!) for passes, we were escorted to the Cabin Mock Up Centre.

There are going to be big changes in airliner interiors. More composites, lighter weights, and of great importance, the ability to change layouts built in during construction potentially saving huge costs. Starting with the A350 series, all cabins will be wired and structurally the same, and will be able to accommodate all possible layouts demanded by different customers. This is of immense importance when aircraft move to second owners who may not appreciate the choice of their predecessors. It also effects residual values.

Robin Pursey, "Director Flight Ops Airbus Executive and Private Aviation" then welcomed us. His address was followed by a David Velupillai who ably persuaded us that the "Airbus Corporate Jet Family" was superior to all competitors.

Ed Strongman "Chief Test Pilot Airbus Military" then reviewed the A400M programme. The delays to this are well documented elsewhere. Ed described how trying to integrate all the military demands into an aircraft that also met the current civil requirement was challenging. With hindsight, Airbus might have preferred to put more effort into the A400M, and less into the A380, but no-one could have foreseen the current world situation.

Liveryman Frank Chapman "Engineering Test Pilot", then described the A350 flight deck which is even more advanced in terms of ease of use and lack of paper than the A380. In particular, all the screens can be viewed by both pilots, though clearly each pilot will use his own screens for managing the flight. Robin Pursey ended the morning by describing A320 Antarctic Operations. Landing an airliner on ice. Whatever next!

Next, the French Lunch. We were hosted by Airbus to a magnificent spread in their "Sky" restaurant.....

The afternoon commenced with Peter Chandler "Chief Test Pilot-Airbus Civil Aircraft" telling us all about flight testing the A380. As a helicopter pilot, this seemed to me to be a little dangerous! However, I suspect that Peter may have reservations about helicopter flight in general!! Bernard Mattos "Senior Expert-Simulation" then took us to view the Iron Bird simulators of both the A380 and A400M. Airbus intend keeping both a Flight Test Aircraft and Iron Bird in service throughout the life of the aircraft. Bernard, who spoke perfect English, was quite forthcoming about the occasional language misunderstandings that do arise when English is the language used by everyone at multi-national meetings.

Next, the High Point of the visit, the Flight Test Hangar. The A380 s/n 001 was opened up for us to crawl where we liked! All our questions were frankly answered by the test pilots, and for a one and only time, photos were allowed.

There were four teenagers amongst our guests. Liveryman Iain Tulloch's son-Alexander, and Liveryman Robert Jacobson's three sons: Bart, Paul and Anthonie. These four boys, who were back at school in Spain and Holland Tuesday morning, had the time of their lives!

Our visit to Airbus ended with a tour of the A380 final assembly line with two very attractive ladies as our guides. This building is massive, and by now a few of us were looking towards a seat on the bus to the hotels.....it was already 1830, and Dinner was at 2000!

Monday evening we dined at "Les Caves de la Maréchale", a short walk from the hotels. The Master presented a Guild shield to Peter Chandler, who was our guest together with his wife Kate together with Liveryman Frank Chapman

Tuesday- Broken Bus

Tuesday morning was, thankfully for most, free time. Toulouse is a charming city, largely undamaged during WWII. Most streets are too narrow for free-flowing traffic, and walking around is very pleasant. The cafés on the sunny side of the Place du Capitole were a popular meeting place.

Dick Hadlow searches for a replacement bus.

Then, at midday, we set off to visit the source of our wine each evening, Vignoble Arbeau. All went well until we were 15 minutes into the motorway sector, when the bus stopped. Broken!

There we were, parked in the early afternoon heat, at the side of the autoroute. 45 minutes later, we were on our way in a replacement bus. Once at the vineyard, the Master was treated to a detailed resumé of the finer points of vine culture before we were permitted to commence the "tasting". To be frank, the delay on the autoroute may have been a silver lining as it did reduce the time available for consumption!

After ensuring that no wine went untouched, we were off to the shop in the village. Here, some purchased a bottle, or two, whilst others needed a trolley and some muscle power.

We returned to Airbus's facility at Blagnac in time for the local branch of the RAeS lecture on the Airbus A350. There were probably 200 attendees at this lecture which contained so much information that I really couldn't keep up taking notes!

And now, finally, The Last Supper. Our final meal was at the Restaurant 7 Place Saint Sernin. This absolutely superb(e) restaurant is next to the floodlit Basilique. The location and the food were quite marvellous. Once more, and for the last time, the wine was from Vignoble Arbeau. I can only repeat that our visit would have been so much more expensive without the arrangements made by Liveryman Hugh Dibley to provide wine for all three dinners at cost price. Thank you Hugh!

The Master, Sue and Guild members absorb the detail of vine culture in the Provencal sunshine.

Carrying off the spoils, no hope of it being classified as hand luggage!

Judith Gault checks out the left hand seat in the Airbus 380

Pillars of Fire

P.C. FYNES, CANADA REGION

'Tanker 451, altimeter 29.89, target elevation 1,500, maintain 4,000 and you are Number Two. There's already a 580 holding at 3,500." In a few minutes, a DC-6 with an external belly tank containing 11,360 litres of fire retardant will arrive overhead a burgeoning forest fire in central British Columbia. The instructions come from a Conair Turbo Commander which acts as an airborne command post, or 'bird-dog'; in the right seat is the Air Attack Officer (AAO) who represents the British Columbia Forestry Service (BCFS).

The AAO's task is to assess the fire in terms of size, speed, direction of travel and risk to life and property. He will decide where to lay down lines of retardant to impede the fire's advance and then coordinate his tactics with the firemen on the ground and air tankers arriving on the scene. The bird-dog will provide air traffic control, stacking the tankers overhead as they arrive, stepping them down in 500' increments and then shepherding them on their bombing runs across the head of the fire.

Since the bird-dog aircraft is light and manoeuvrable, it will first fly a reconnaissance run along the 'line' checking for obstructions that a heavy air tanker might be unable to avoid. The pilot must be particularly vigilant for 'snags': solitary trees that are significantly higher than the forest's canopy. The bird-dog also identifies tracks and gradients that permit the tanker to safely overshoot with an engine failure, even if the emergency load dump system fails to operate properly. Consequently the chosen line must always be over level or descending terrain, never rising ground. Furthermore, the line should not be directly into the sun as flying a DC-6 with full flap at 125 knots, 130' above the tree tops, until the target is just about to disappear under the nose, is very much an 'eyes wide open' exercise.

To the uninitiated, the burning question is not so much how a few aircraft can subdue a vast conflagration, rather 'How can it be done in a routine and safe manner despite the convective turbulence and smoky visibility that accompany forest fires?' This year the Conair Group, headquartered in Abbotsford B.C., celebrates its 40th anniversary of saving lives and property, maintains a strong lead in its field and has received many rewards for pioneering Safety Management Systems in non-airline operations.

Claude Marchand, Director of Safety Services points out that while safety is a noble aim in its own right, it's also good for business. In fact, the cost reductions are tangible and a portion of the savings is shared with all employees, from the corner office to the hangar floor. Since 1995 Conair has been examining every incident that causes lost time, or damage to company property and has been transformed operationally, with many of the best improvements being suggested by the employee group. This year, Marchand instituted "Target Zero", an enhanced safety program designed to take accidents and incidents right to the bottom of the graph paper.

DC-6 tanker 450 laying a line of fire retardant in the wilderness

Ray Horton, Director of Flight Operations, explains "Safety begins with hiring the right people and we specify an ATPL with significant PIC and multi-engine experience". Despite the challenging work, pilots appreciate Conair's safety-first way of doing business and thus annual turnover is low. For the 2009 summer fire season, the average Conair pilot has several years with the company and 8,100 hours in his logbook. "Then, we give our people the best training possible" notes Horton, a former airline pilot who has been with the Conair Group for 26 years.

In the spring, when snow still covers much of the West's forests, Horton recalls his pilots to Abbotsford for their annual training which includes type proficiency and instrument rating checks and of course, target practice. A typical small practice drop will spread fluid in a swath approximately 12m wide and 30m long and candidates' skill is scored in units of 'drop width' from the target. In real operations, this same rating is conducted by the birddog which flies slightly above and behind the air tanker. On the DC-6 belly, for example, the Conair designed and engineered retardant tank is rather like a big ice-cube tray with separate compartments and computer-operated doors. The pilots can vary door sequences and drop patterns to satisfy the AAO's requirements. A small fire could be boxed in on all four sides, for example, by unloading three of the twelve compartments on each of the four passes. Alternatively, an elongated pattern can be achieved by the sequenced opening of all doors on a single run.

By early June, Conair's private air force has been divided into Groups and dispatched to temporary summer bases in Alberta, British Columbia, Alaska and the Yukon. Each Group contains a mix of air tankers and bird-dogs and a team of dedicated maintenance personnel. The air tanker fleet includes 2 Douglas DC-6, 9 Convair 580, 9 Firecats (remanufactured Grumman Trackers) and 18 single-engine Air Tractor AT-802's. The bird-dog fleet consists of 8 Piper

Conair CV-580 drops water on a practice run during spring training.

Aerostars, 5 Turbo Commanders and 4 Cessna Caravans.

Although Conair provides crews for several Bombardier CL-215/215T's owned by the Alberta government, it does not operate any of this type itself. Horton points out that the geography is different in British Columbia; suitable lakes are not so plentiful and often terrain can restrict 'water scooping' operations. Thus water bombers have the advantage only when the fire is close to open expanses of water and multiple drops can be executed in short order. This specialized ability was demonstrated in 2003 when the lakeside city of Kelowna was threatened and the flying boats played an important role in taming a fire that charred 250 sq.km. and razed 239 homes in the southern suburbs. On the other hand, when open water is not available, the special retardant dropped from Conair's airport-based aircraft can keep trees from igniting for several hours. The retardant itself is a slurry mixture of water, salts, fertilizer and red iron oxide, which acts as a visual marker when tacking a perimeter around a fire.

Most forest fires are caused by lightning strikes and the BCFS's Command Centre tracks the weather and monitors the moisture levels across the province's forests. Other jurisdictions have similar procedures in place so that their aircraft may also be positioned in the areas faced with the greatest risk. Although the Groups' daily missions are determined by Conair's governmental customers, close contact is maintained with the home base. Every two minutes, Captain Horton's office computer is updated with the position and status of all deployed aircraft and each flightdeck is equipped with either an Iridium or Globalstar telephone. An aircraft commander is never more than a phone call away from the operational advice and technical expertise at Abbotsford. Such technology comes with a price tag but Marchand and Horton both look on it not only as a means to better serve their customers but also as an investment in safety.

Conair will be expanding its CV-580 fleet in the coming years as the type's handling characteristics, rugged airframe, 8,400 litre tank and turboprop engines have proven ideal in the fire-fighting role. Like the Firecat program which was also accomplished in-house, Conair converts the former airliners into fire attack aircraft in its own 100,000 sq.ft. maintenance facility at Abbotsford. The company also played the central role in the certification of Bombardier Q-400 air tankers delivered to France's Securité Civile.

Overhead the forest fire, the Convair 580 flies conventional rectangular circuits with the Turbo Commander joining up on final to guide the tanker along the line and also to critique the drops. Soon it will be time for the DC-6 to descend from its holding altitude and make its runs, further hemming in the fire. Once back at base, the tankers will either immediately reload and return to the fire for more drops, or the crews will participate in the AAO's operational debriefing. A candid examination of each day's flying builds knowledge, sharpens teamwork and reinforces safety procedures. This cycle is repeated throughout the summer until September's cooler weather brings an end to the fire season.

Forest fires are inherently fickle and hazardous but Canada's Conair has demonstrated that they may be fought effectively and economically, without endangering crews and aircraft. As Shakespeare might have concluded 'From this nettle, danger, we have plucked a flower, safety.'

Conair CEO inducted into Canada's Aviation Hall of Fame

D. FARQUHAR
ADMINISTRATOR, CANADA REGION

Upper Freeman Barry Marsden was inducted into Canada's Aviation Hall of Fame in a ceremony held May 30, 2009 at Wetaskiwin's Reynolds-Alberta Museum. Marsden, an Aircraft Maintenance Engineer and an Airline Transport Rated pilot, co-founded Conair in 1969 and became its President and CEO in 1991.

Marsden formed Cascade Aerospace in 2001 and today the company performs modifications and heavy maintenance for leading airlines and governments. Cascade also provides fleet management services for the Canadian Department of National Defence's C-130 Lockheed Hercules aircraft.

The citation reads "His visionary leadership has made Conair Group a world leader in the development of aerial fire control services, and Cascade Aerospace a specialist in fleet management, maintenance and modification services, resulting in major contributions to Canada's aviation industry."

Barry Marsden thanks John Holding (left), Chairman of the Board of Directors of the Aviation Hall of Fame and Max Ward (right), founder of Wardair Canada, for his induction

New Zealand Region Sponsors the Inaugural

South Pacific Safety Management Systems Symposium

CAPTAIN BRYAN WYNESS, CHAIRMAN, NEW ZEALAND REGION

Over the last several years the New Zealand Region of the Guild of Air Pilots and Air Navigators has been active in advocating the development and implementation of Safety Management Systems in the Aviation Sector of New Zealand and the Pacific Islands.

By way of background, Safety Management Systems has been the topic for two successful New Zealand Region Guild Technical evenings held in Wellington (the Capital City) and Auckland. The affiliation to the New Zealand Region of the Guild of the Royal New Zealand Air Force has meant that for these Technical evenings we could use speakers from both the RNZAF and the civil aviation industry which enabled a broad coverage of the topics of Safety Management System implementation in the RNZAF and ZEAL 320 (the operator of Airbus A320 in the Air New Zealand Group). A wide cross section of people with aviation interests and accountability in addition to Guild members were invited to attend these evenings.

It was gratifying to have the Minister of Transport Safety of the NZ Government plus members of the Ministry of Transport, together with both RNZAF and civilian personnel attained. Presentations were made by Mr. Neil Airey, Manager Safety Management Systems for ZEAL 320 and Wing Commander Johan Bosch, Director of Air Force Safety and Health. These two technical evenings had been part of an overall New Zealand Region strategy to raise awareness of the ICAO annex requirements for safety management systems and demonstrate practical examples of Safety Management Systems in operation. Also to indicate a willingness by the Guild to support both regulatory and industry efforts to define an implementation programme. The New Zealand Region has also over the last several years met with the then Minister of Transport Safety, Mr. Harry Duynhoven, officials of the Ministry of Transport and Officers of the Civil Aviation Authority of New Zealand to indicate the Guild's support for rapid rule making and implementation. We had also worked closely with the Aviation Industry Association, a body representing all aspects of New Zealand Civil Aviation and who are committed to enhancing operational safety through the implementation of Safety Management Systems.

However this not insignificant effort had little real result apart from the publishing of a project plan by CAA NZ showing a staged implementation over a number of years. It was in this environment that the executive committee of the New Zealand Region resolved to provide some seed funding, agenda development, and organisational assistance for an inaugural South Pacific Safety Management Systems Symposium. The commitment of funding assistance by the New Zealand Region of the Guild was put to the Aviation Industry Association executive who readily agreed to support the Symposium with organisational assistance and funding, and when the proposal for the Symposium was put to CAA NZ they readily agreed to support and participate. These initial discussions took place some 12 months prior to the actual date of the Symposium which was set for 20th & 21st March 2009.

Agenda development was quickly followed by ascertaining the availability of speakers who could address the selected topics with authority. The organising group of which the Guild was a member was able to quickly secure both International and New Zealand based speakers that represented the cross section of industry affected by the initial implementation of the Safety Management System Annex's, namely Airlines, Maintenance Organisations, Airports and Air Traffic Control. Where possible we also secured speakers representing the medium and small operators to ensure a balanced view.

Now to the Symposium itself.

The Guild in the form of Captain Bryan Wyness, Chairman of the New Zealand Region, assumed the role of Symposium Chair, and Ms. Irene King, Chief Executive of the Aviation Industry Association, the role of the Overall organiser. Enrolments reached the 100 mark with a number of attendees from Australia and the Pacific Islands.

The presentations were aligned with four main topics headings:

1. *SMS Foundations*
2. *SMS Integration*
3. *SMS Lead Indicators*
4. *SMS "One size does not fit all"*

Day ONE

1. Foundations:

This covered the basic description of what are the essential elements of a Safety Management System. The speakers addressing this particular area were; Mr. Neil Airey, whose most recent role was as a manager of Safety Management Systems, who kicked the ball off with "SMS – 101". He was followed by Dr. Rob Lee, well known to most aviators from his previous role as the Director of the Australian Bureau of Air Safety Investigations, but also becoming the authority of SMS understanding and implementation. To consolidate this section there were key note addresses from the Director of CAA NZ Mr. Steve Douglas addressing Safety Management Systems in New Zealand and brief key notes from three General Managers from CAA NZ, Mr. Simon Clegg, Mr. John Kay and Captain Mark Hughes covering off the "NZ State Safety Plan", "Information and Data Flows under the SMS approach" and "What SMS means for an Operators

relationship with the CAA"

2. Integration:

The second major groupings of presentations sought to cover the integration of SMS with the current Quality Systems and the management of risk across and between aviation participants. The overall topic of Integration was covered with some searching presentations by Captain Tim Burfoot, Chief Investigator of the New Zealand Transport and Accident Investigation Commission (TAIC) whose talk was "What I find and don't find when investigating incidents and accidents"

Dr. Curt Graeber, recently retired as a Senior Technical Fellow Boeing Company, put SMS in context in the "Global Aviation Safety Road Map", Mike Cosman and David Tregoweth gave an "Occupational Safety and Health (OSH) view of SMS", and "OSH a Working Example of SMS in Action?".

Day one concluded with "The Case for SMS in the Air Force" delivered by Wing Commander Johan Bosch.

The Symposium also held workshop sessions at the conclusion of each group of presentations where the audience was divided into groups and with the help of facilitators, discussed and documented the understandings from the presentations. These were recorded and, together with the presentations formed the proceedings of the Symposium.

Day TWO:

Day two of the Symposium had two main topic headings to cover "Lead Indicators" and "One Size Does Not Fit All". The "Lead Indicator" session had speakers from the New Zealand Air Traffic Control provider, "A Case Study of SMS Implementation" and "Integration of a Fatigue Risk Management System into an SMS", and of particular interest was the paper by Mr. Paul Lamy, Deputy Director of the Air Navigation Bureau of ICAO, his topic being "Why SMS?"

The last session of the Symposium sought to give reality to the clear direction in the ICAO annex's to ensure that the SMS matches the size and complexity of the operation for which it is required. Presentations from the New Zealand major airline, a small rescue helicopter operator, a major airport and a maintenance provider certainly provided some valuable guidance to both the participants and the regulator.

The Symposium concluded with an action plan workshop and some words of guidance and encouragement from Dr. Rob Lee and Mr Paul Lamy.

Was it successful?

I would say yes. Comments by the now Minister of Transport, Mr. Stephen Joyce, who was able to attend briefly, and comments by CAA NZ, and Ministry of Transport staff plus feedback from industry indicated that the Symposium has focused all participants on the necessity of implementation of SMS sooner rather than later! The formation of an Industry Steering Group was also a positive outcome from the Symposium.

By initiating this Symposium and providing both financial and technical assistance in the development of the agenda for the two day Symposium the New Zealand Region of the Guild has demonstrated it can make a positive contribution to enhance aviation safety both in New Zealand and the Pacific islands.

Dr Rob Green and Curt Graeber.

Simon Clegg, Bryan Wyness, Hon. Steven Joyce, Minister of Transport, Wing Commander Johan Bausch, Alan Boyce.

The Guild's Visit to RNLI Poole

ASSISTANT CHRIS FORD

It's dark, there is a thirty-knot gale blowing, the sea is rough and the lightning flashes all around. The sound of a helicopter hovering overhead brings relief to those about to be rescued from this maelstrom. The survivors of this disaster at sea are thanking their lucky stars for the brave crews from the RNLI who have come to rescue them from certain death. This time we do not hear about it on the early morning news, no, in reality this is a training scenario being demonstrated to the Master, his wife and twenty-one other members of the Guild who are on a visit to the RNLI Training College at Poole in Dorset.

On Thursday the 4th June the Master accompanied by members of the Guild, their families and friends visited the RNLI Training College at Poole. The visit, arranged by the kind invitation of The Chief Executive ***Andrew Freemantle*** CBE, gave the party the opportunity to learn more about the workings of the RNLI and to get a feel for the camaraderie within the Institution which is so important to ensure the exemplary service is upheld year in year out.

The Royal National Lifeboat Institution was founded in 1824 and is by far the largest dedicated lifeboat service in the world. To this day the RNLI provides the sea rescue service around the coast of the United Kingdom and the Republic of Ireland. 350 lifeboats at 235 lifeboat stations, deployed at strategic locations, provide coverage in these waters. Although there is at least one full-time, paid member of staff on each All Weather Lifeboat, the vast majority of the four and a half thousand crewmembers are volunteers and receive no pay.

The dangers of the 'old days' are over now that the RNLI has 127 All Weather Lifeboats, which are capable of 25 knots and all of which are self-righting. These are either already afloat or launched from slipways or carriages. New lifeboats are being developed and built to replace older ones at a cost of £2.6 million a time. Inshore waters are covered by 5 and 8 metre Ribs and 9 metre water jet lifeboats as well as a number of light hovercraft for locations with large expanses of mud or sand exposed at low tide.

More recently the RNLI has added beach Lifeguards to its skill set, initially 6 years ago at 3 beaches. By 2008 this had expanded to some 140 beaches around England and Wales. With financial assistance from local Councils this facility only costs 5% of the RNLI's annual budget.

Mersey**, **Trent** and **Severn** Class boats seen from a **Tamar

Training for all the volunteers is conducted as close as possible to the lifeboat station to which they are attached, either with the local coxswain or by using a number of Mobile Training Units; these are equipped to provide either radar/navigation, medical or engine maintenance training and visit each lifeboat station every few months. However, some training has to be conducted centrally and for that reason the RNLI Training College was opened in 2004.

The Guild members were entertained in the College and its facilities for the day. ***Andrew Freemantle*** gave the party an introductory overview of the RNLI, whereupon the party was split into two groups to visit the training facilities. College Principal and Head of Training ***Geraldine Grainger*** showed the groups the facilities within the College. Comprising of 60 en-suite bedrooms, training rooms, restaurant and bar the College can house the trainee crews in comfort and at less cost than in Poole itself. Attached to the College are a Survival Centre, a full sized Bridge Simulator and a live engine workshop. Storage and major maintenance of relief boats and sea training for crews also takes place at Poole.

David Brook OBE, Engineering and Supply Director, showed the groups around the workshops, storage facilities and the boat yard. The high point of this element was being able to see one of the new "***Tamar***" class lifeboats complete with a computerised Systems and Information Management System (SIMS) which enables the crews to remotely perform navigation and

onboard management tasks whilst being seated, for longer, securely and in better safety.

Head of Fleet Operations ***Hugh Fogarty*** showed the groups the heart of the RNLI, its Ops Room. Here, he demonstrated the Man Overboard (MOB) Guardian, a life saving innovation designed and pioneered by the RNLI and monitored 24 hrs a day by the Ops Staff. Based upon GPS technology this equipment is the only one available to ensure the location of a small commercial vessel and its crew are monitored continuously whilst at sea around the UK. Should there be a Man Overboard situation, mechanical or medical emergency then an alarm will sound (typically within three minutes) in Poole from where the staff will either contact the vessel or the Coast Guard.

Guy Richards and Ryan Clark demonstrated how versatile the Bridge Simulator was by setting the scene off Dover harbour, varying the weather, light and sea conditions whilst adding a few extras to illustrate just how realistic the situation could be made to seem whilst attempting to rescue survivors from a burning super tanker. This is not a motion simulator as aviators are used to. However, the graphics are of such good quality one could just imagine how the crews must feel on a very dark night with a lot of pressure to succeed and forgetting that "teacher" is watching and recording every action from the console next door. And, yes, at the RNLI they are looking for their equivalent of CRM, though, they call it Team (or Bridge) resource management.

The drama of a sea rescue and perhaps some of the most realistic training was demonstrated by ***Alex Saywell*** at the Sea Survival trainer. Here he was able to recreate a 2 metre swell, 30 kts of wind, darkness, thunder, lightning and even the saviour in the form of the noise of a helicopter. Within this environment the crews can be trained to right capsized inshore lifeboats, rescue casualties and even winch people out of the sea. Obviously a very worthwhile facility that reduces the risk of injury to the trainee crews who in the past would have put to sea without having practiced such drills.

Half way through the day an enjoyable buffet lunch was had in the company of most of the senior executive of the RNLI, giving us an opportunity to delve more into the workings of such an efficient organisation. Throughout this visit the Guild Members were thoroughly impressed by the organisation, team spirit, enthusiasm and dedication shown by all involved with the RNLI, to the extent that it was obvious that working for the RNLI was not a job but a way of life. Sadly the day had to end mid afternoon but not before The Master had handed a donation from those attending to the Chief Executive. Thereafter a few paid a visit to the shop to buy some mementos of the visit.

2008 saw 8,293 Lifeboat launches. 7,612 people rescued, 9,536 Lifeguard incidents and 11,027 people being aided, the busiest year to date. To continue to provide such a unique and invaluable service the RNLI must raise £130 million each year. All of this is generated by charitable contributions, many of which are legacies. The funds to do this in 2008 were made up of £94.0M in legacies, £52.0M from raised voluntary income and £14.0M from investments, leaving the RNLI with enough money to survive for 7 months if the source of funding were to dry up! However, the Institution exists by Royal Charter and this is unlikely to occur, as the Government would have to provide the service if the RNLI was unable to continue!

Full details of the RNLI can be found on the web site ***www.rnli.org.uk*** and for all those who fly over or navigate the waters around the British Isles please remember; "The RNLI is the Charity that saves lives at sea"

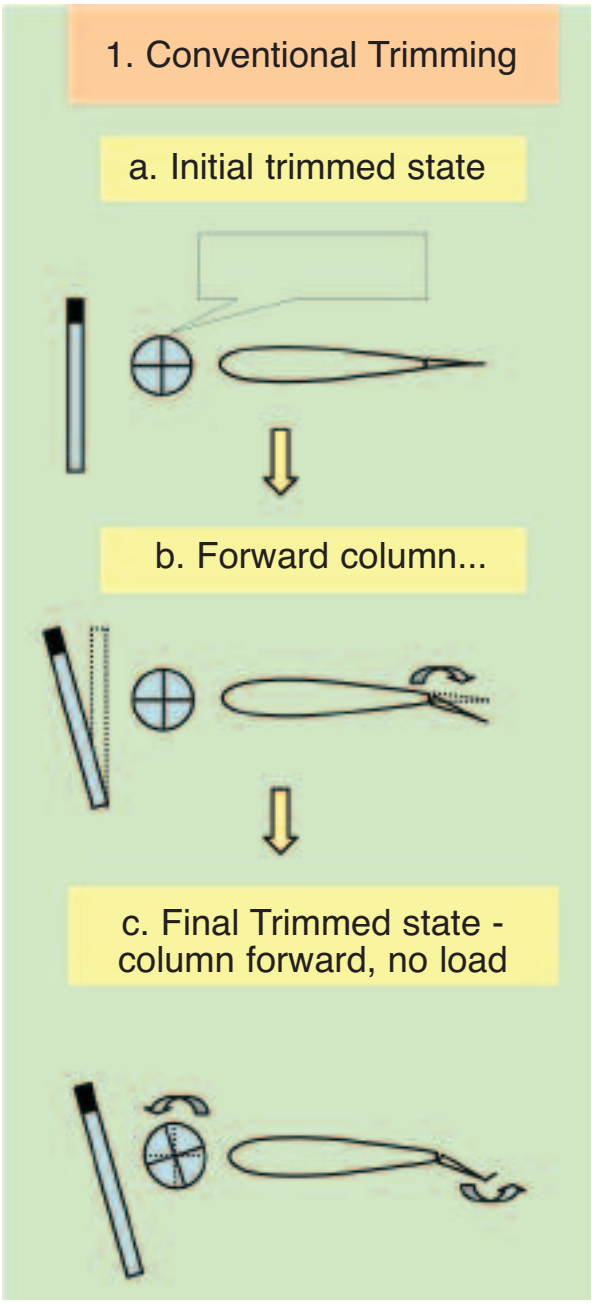
Sue and The Master learning about a Tamar class lifeboat.

Do you **really** *understand how your trim works?*

Many do not, and why it matters.

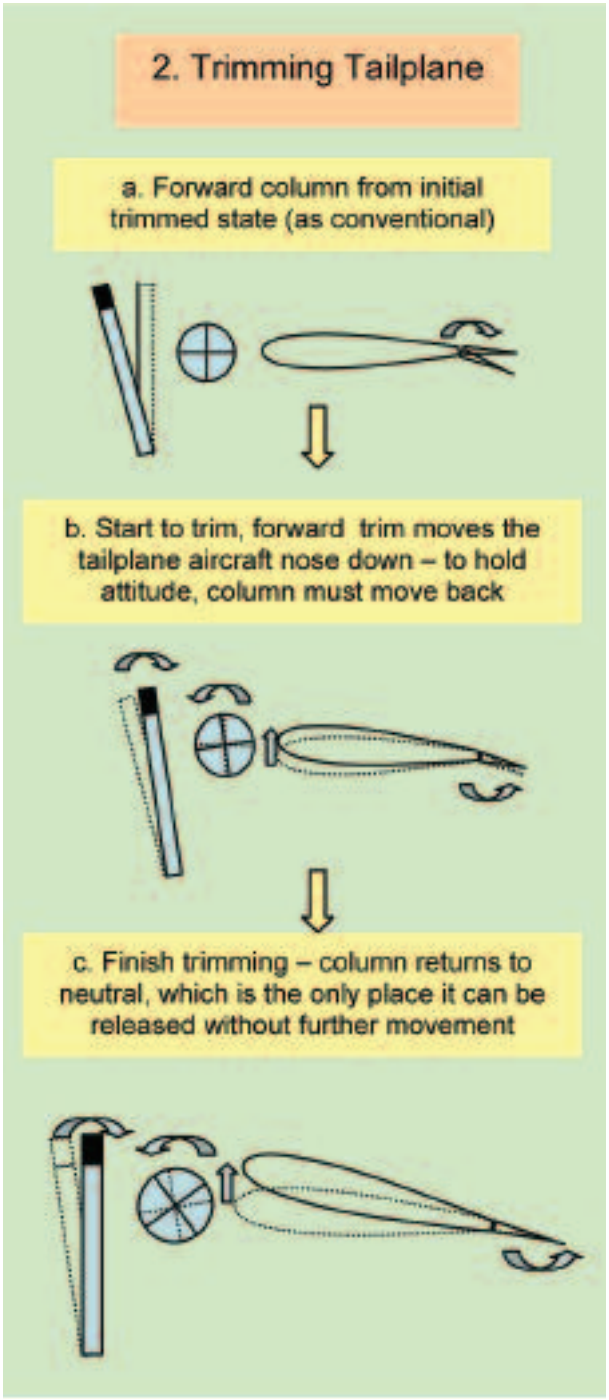
ALEX FISHER

Picture yourself in a conventional airliner, say a 737 of any generation. You have to do a low level go-around, perhaps because your fail passive Cat lll has just failed, er, passively. You apply GA thrust, and the aircraft pitches up. If you are low enough, you may already have some extra helpful nose up trim applied thanks to the 'design feature' that ensures that in the event of AP failure at low level, the aircraft pitches up not down, and so a few units of nose up trim are applied late in the approach. Your speed is low, about V_{app} and the thing is pitching firmly upward. You need ample forward stick/elevator to restrain it. You don't want to carry this load for long so you retrim. Question: if you run the trim forward while maintaining forward pressure on the wheel, what happens? Hands up all those who think the load reduces to zero. I see a lot of hands. My unscientific polling to date suggests that just about everyone is convinced that this is what happens, but it doesn't.



Nearly everyone of my generation trained on a Cessna 150 or a Piper PA28. You fly those aircraft by putting the attitude where you want it, holding it there by holding the stick rigid and retrimming until the load goes to zero. In fact if you didn't do that, but were too quick and started trimming before the aircraft was stable, the instructor would exhibit a severe sense of humour failure. Let's just consider what is going on. Starting from an 'in-trim' state, fig 1(a) (just for illustration I have shown it as everything in the middle, but obviously this isn't essential to the argument); then, fig 1(b), the column is held forward moving the elevator down. Moving the trim wheel, fig 1(c), in this case moves a trim tab which relieves the control load until it goes to zero; the column can again be released, and it stays forward where you left it. So in this scheme, the control column stays forward for high speed and back at low speed. Although I have shown a tab operated system, the same result can be achieved without a tab by means of a spring in the control circuit or by altering the neutral point of the feel system. Aircraft as diverse as the Tiger Moth, the L1011, and Concorde fly this way.

Now there is another class of aircraft that works totally differently. This group includes most conventional transports, and even the non conventional A320 series in direct law. In these, the tailplane is controlled directly by the trim system, while the control wheel controls only the angle of the elevator relative to the tailplane. Now starting again from the out of trim state we started from above (see fig 2), as the nose down trim is applied, the tailplane starts to move leading-edge up. In order to keep the force contributed by *both* the tailplane and elevator constant (i.e. to maintain attitude), the elevator angle has to be reduced as the tailplane incidence increases (fig 2b). To do this, the column/ wheel has to be moved back towards neutral. When the operation is complete, the column/ wheel is back in the neutral position, which is the only place it can be released without further movement (fig 2c); its position does not indicate the trim state of the aircraft. For years Boeing manuals have said



flatly that the control wheel cannot be moved opposite to the direction of trimming motion (the trim motors cut out if it is)…. wrong, it can, and indeed has to, be *moved* in the opposite direction every time the trim is used; the action is achieved by just relaxing the pressure on the column and allowing to drift back to neutral. It is true that if *pressure* is applied to the column opposite to the direction of trim, then the trim cuts out.

This behaviour (column always returns to neutral regardless of speed) is not necessarily limited to aircraft with trimmable tailplanes; for example, if the column operates a servo tab while the trimmer moves a separate trim tab, the effect would be the same (I believe the 146/RJ series works this way). Doubtless there are other combinations too, you really have to study the systems carefully.

When I converted from a 'conventional' trimming type (Trident) to a separate trimming tailplane (757), not a word on this subject appeared in the training notes, nor was anything ever said by any training captain. Many years later I did write something for the company Magazine and generic training manual, but apart from one reprint in the Far East it has not been widely circulated. So how do people go through an entire career without realising things have changed from the way they were first taught? I think it is because mostly any column movement is followed immediately by small movements of the trimmer, so large loads are never allowed to develop and the reverse column movements are virtually imperceptible. In 'normal' flight operations, movements in pitch are mostly quite small, apart from two: rotate and go around; the latter is relatively rare, while the former is transitory (if the take-off trim is roughly right (!) you can relax the load after lift off with the aircraft roughly at the right attitude).

So why does it matter? The chances are you will fly more smoothly if you understand what is going on, but there are three broad categories of error which are likely if these subtleties are not understood, I will cite examples of each.

1. Failure to understand the trim function (the process described above) itself. This isn't disastrous. Most pilots are in this category, but they cope well anyway, by simply flying on the trim. This isn't how they were taught, but, well, it works. It begins to matter when the trim changes are large. I have watched, in the simulator, a 737 go-around from a Cat lll fail passive approach (as described above) with its marked pitch up; HP kept his arms locked forward to contain the attitude whilst simultaneously running the trim forward with the thumb switch. I am sure he was expecting the trim to reduce push needed and he either didn't know, or had forgotten, that it wouldn't. We duly pitched straight back quickly into the ground as the tailplane incidence 'bit'. I can't cite with certainty any accident that has been caused by doing this, but I strongly suspect this was a factor in the infamous Icelandair upset event at Oslo[1] The aircraft went quickly from +20 deg to -40 deg and was only saved from a CFIT by a 3.5g pull up, bottoming out at 360ft. Sadly, the report does not discuss the control inputs, nor does it contain any FDR traces, so this trim confusion explanation must remain speculation. I would be astonished, however, if there weren't more examples of this error, particularly in unfamiliar situations.

2. Failure to realise that the tailplane, commanded by the trim system, is a totally independent pitch control; it will be available if the primary control is inoperative or ineffective. But if you only think of the trimmer, wrongly, as a column-load reduction device, you may not think of its other use when needed. The following examples illustrate the point; I am certain of the first, the others must remain speculation in the absence of evidence.

(a) 747-400 Take-off incident[2]. Just after lift off the aircraft suffered an elevator hardover, uncommanded full nose down movement of one elevator; the pitch attitude began to reduce. The crew's reaction not unreasonably was first to pull harder, then a lot harder, which succeeded in preventing an immediate accident, but cannot be said to have truly regained control. The anomaly

3. Some all moving tailplanes are trimmed conventionally - the Trident's was commanded by both the column and the trim wheel; the 'elevator' was a geared tab (reproduced with permission from CAA)

lasted about 8 secs until a spike in the hydraulic pressure during the gear raising sequence allowed normal control to be resumed. *No one* thought of just blipping the trim button to restore order. Did thinking of the trim as merely a load reducer blind them to the simple solution? The incident report does not mention the alternative control available and does not discuss that part of the pitch control system at all.

(b) THY DC-10 crash at Ermenonville in 1974.[3] This was caused by an improperly secured cargo door which blew off; the floor above it collapsed due to the pressurisation load, disrupting the controls and injecting a nose down elevator input. Rumour, I admit quite unsubstantiated, has it that it could have been flown on the trim as there was still hydraulic power to the tailplane (350 casualties).

(c) The BAC 1-11 flight test super-stall[4]. There was insufficient elevator to recover, but the FDR trace shows that no attempt was made to adjust the tailplane which would have been more powerful. It is pure speculation now after 40 years, but it is an intriguing thought that it might have helped. There would certainly have been no similar possibility for the Trident[5] that was lost during a pre delivery test flight a year or so later as the trim and column both operated the tailplane and its geared elevator together (see fig 3).

3. Failure to appreciate that loss of control in pitch might be due to the independent operation of the trim system. Several well known pitch upsets to A300s and A310s (see for instance the TAROM upset at Orly Sep 1994[6], and the A300 at Nagoya, April 1994) have been caused by a tailplane movement which was not fully appreciated by the crew, and was all the more insidious precisely because there was NO change to the load on the column . This is the reverse of the situation in (2) above. None of these occurrences were technically trim runaways, so there were no warnings and no indication to the crew from the feel of the column. The first incident started with the flap overspeed protection system (the designers obviously thought that putting in nose up trim would reduce the speed… well it will if you understand totally what is happening and don't override it); the second, a fatal accident, started with an inadvertent, and probably unnoticed, GA selection.

A system where there are two independent means of control, has obvious safety benefits, but it also has pitfalls if it is not fully understood. The lack of importance given to the trim system in training seems extraordinary. I recall asking for TC guidance during my 757 conversion, to be told that there was no difference to previous types; when I finally convinced His Eminence that there was, he blustered that it didn't matter. I can find no relevant discussion in my edition of the Bible, Handling the Big Jets; I guess the Test Pilots just cope with anything they come across without preconception, and perhaps don't realise how much baggage the rest of us carry from our basic training. Accident investigators would also do well to ask themselves more often just how the unfortunate pilots had been trained, and cover the likely rationale for the control inputs in their reports. The illustrations I have used are obviously very rare events, so it is very unlikely that any one reading this will ever face their like. Engine cuts at V_1 are pretty rare too, but they get a lot more exposure in training than the basic control functions, odd, isn't it.

SAFE FLYING

Postscript

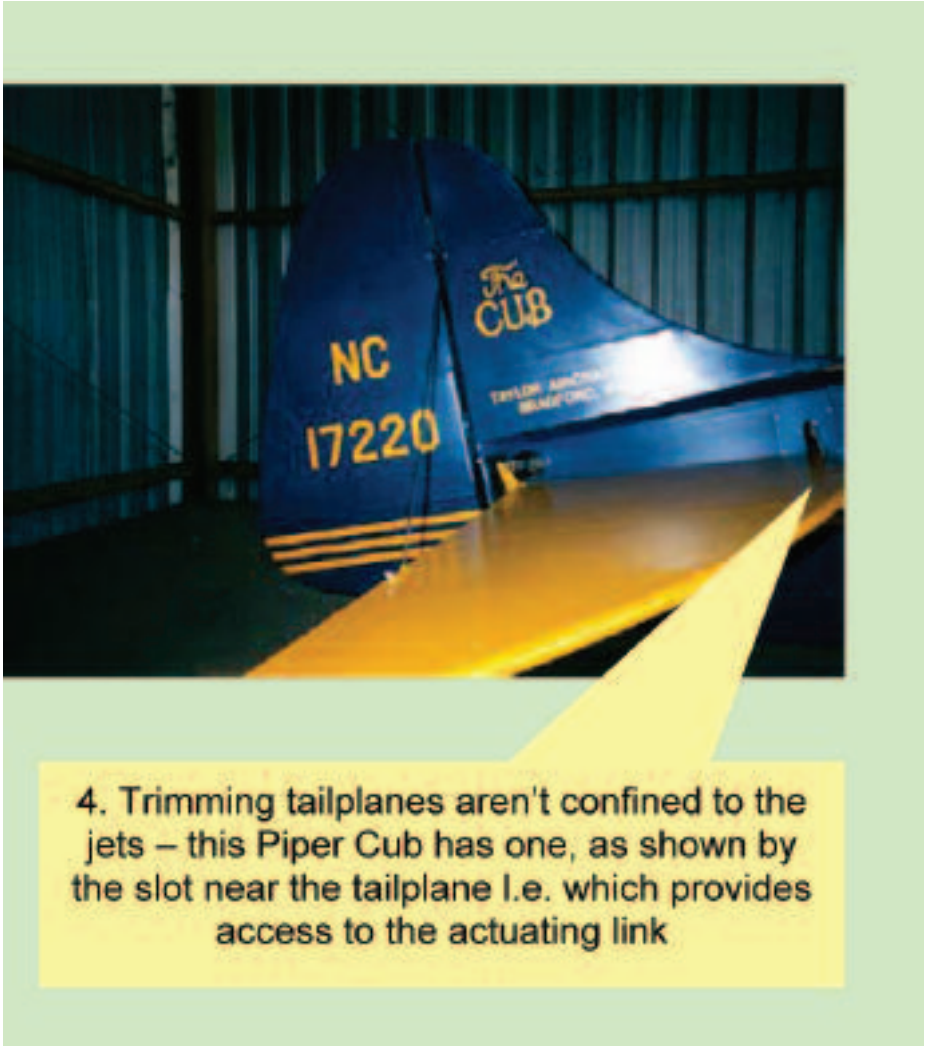
This article was written for the UKFSC Focus magazine in late 2007. Since then there has been a spate of accidents and alarming incidents in which 'tailplane ignorance' has played a part. The 737 accident at Amsterdam, an as yet unpublicised 737 incident in the Far East, and the Perpignan A320 crash all, in different ways, involved a stall and unsuccessful or botched recovery. The shared feature is that in each case the tailplane had wound itself to a fully (aircraft) nose up position, as in (3) above; the combination of pitch up, due to full power, and low speed, meant recovery was probably impossible using elevator alone, to get the nose down meant moving the tailplane back to a more normal position, which means **running the trim forward.** The A320 accident appears to be the result of an improper flight test, but the two 737 cases occurred in normal line flying and illustrate how important it is to understand what the tailplane is doing, and how easy it is for it to finish up somewhere unexpected; in both these cases the trigger was an unnoticed Autothrottle failure on approach, the speed fell and the autopilot duly

trimmed progressively further back until it reached full nose up and quit; recently, April 2009, the UK AAIB published a report[7] into yet another 737 near stall and upset and made the following recommendation:

Safety Recommendation 2009-045: It is recommended that Boeing clarify the wording of the approach to stall recovery Quick Reference Handbook Non-normal Manoeuvres to ensure that pilots are aware that trimming forward may be required to enhance pitch control authority.

The report contains the relevant Boeing Ops Manual pages in an appendix, including this:

To recover from a stall, angle of attack must be reduced below the stalling angle. Nose down pitch control must be applied and maintained until the wings are unstalled. Application of forward control column (as much as full forward may be required) and the use of some nose-down stabilizer trim should provide sufficient elevator control to produce a nose-down pitch rate. It may be difficult to know how much stabilizer trim to use, and care must be taken to avoid using too much trim. Pilots should not fly the airplane using stabilizer trim, and should stop trimming nose down when they feel the g force on the airplane lessen ***or the required elevator force lessen.*** **(my emphasis)**



4. Trimming tailplanes aren't confined to the jets – this Piper Cub has one, as shown by the slot near the tailplane I.e. which provides access to the actuating link

The forces won't lessen by themselves, so that last remark puzzles me – does the writer think that the column load will go to zero as the trim is run forward? It can certainly be read that way, but if you have understood the rest of this article you should be able to understand the subtle coordination required to bring the tailplane safely into play without creating a worse nose-down problem. But you will also appreciate that the bigger danger at the moment may be that too many pilots don't think about trimming *at all* in this situation.

1www.rnf.is/media/skyrslur/2002/Flugatvik_TF-FIO_vid_Gardermoenflugvoll_22._januar_2002._(Endurutgafa).pdf

2 http://www.aaib.dft.gov.uk/sites/aaib/publications/formal_reports/1_1995_g_bnly.cfm

3 http://www.bea-fr.org/docspa/1974/tc-v740303/pdf/tc-v740303.pdf

4 Brian Trubshaw: Test Pilot

5 G-ARPY Felstead, 3 June 1966

6 http://www.bea-fr.org/docspa/1994/yr-a940924/pdf/yr-a940924.pdf

7 http://www.aaib.gov.uk/publications/formal_reports/3_2009_g_thof/g_thof_report_sections.cfm

A Barn With A History

PAST MASTER ARTHUR THORNING

On the Great North Road (A1) near Sandy, Bedfordshire, is a village called Tempsford. It lies at the junction of the Rivers Great Ouse and Ivel. Not much has happened since Alfred the Great's daughter Ethelflaed led her army there in 917 to defeat a Danish force which had set up camp - no prisoners were taken!

If you take a side road towards Everton, you find a bridle path, charmingly called the Skylark Way. The path is itself the remains of a Roman road, from Sandy to Godmanchester. However, walking a few hundred metres North, you find yourself on the perimeter track of an old aerodrome, called after the village of Tempsford. Just off the track is an innocent looking barn, named Gibraltar Farm on the map.

Gibraltar Farm

A Handley Page Halifax aircraft, or sometimes an American Liberator, would be sitting nearby waiting to depart, to parachute the agents of the Special Operations Executive (SOE) into occupied Europe - 'Set Europe Ablaze' were Churchill's instructions! Also based at Tempsford were Westland Lysander short take-off and landing aircraft which could fly in and out of fields in France, guided by a few electric torches. These aircraft would pick up their passengers from an airfield near the South Coast of England to

The barn, centre left in this aerial picture, near the perimeter track, is all that remains of Gibraltar Farm

Inside the barn are numerous memorials, of which this is the principal.

maximise their range, although sometimes they would fly back direct to Tempsford.

One of the most poignant memorials in the barn is to Violette Szabo, an SOE agent who made her second, and final, flight from Tempsford in June 1944, in an American Special Forces Liberator (she had returned from France a few weeks earlier in a Lysander which landed at Tempsford with a tyre shot out). Sadly, she was captured and executed by the Germans, and posthumously awarded the George Cross, Britain's most distinguished award for civilian gallantry - a tragic and heroic story.

The poem in the frame was composed by Leo Marks of the SOE Coderoom; he needed a set of words the agents could learn by heart for transposition coding purposes. He could not use a poem previously published so he wrote this one, and it has become deservedly famous in its own right. Leo Marks' own girlfriend, a nurse, had been killed in an air accident in Canada and this poem came from his heart; he had great admiration for Violette and gave her this poem to use.

So if you have time when travelling on the Great North Road , you may wish to turn off and pay your respects to these brave souls…who jumped into the night to face uncertain fate.

Sailing the World for Flying Scholarships for the Disabled

On September 13th 2009, GAPAN member Alan Moss will embark on a remarkable journey of a lifetime. Alan, who works as an Air Traffic Controller for NATS in the London TMA at Swanwick, has entered the 2009-2010 Clipper Round the World Yacht Race. The following ten months will see Alan race over 35,000 miles around the globe – quite a feat for this novice sailor.

The Clipper RTW race sees ten identical 68 foot racing yachts leave the UK with a circumnavigation the goal. This is very different to other yacht races though as with the exception of the Skipper, all of the crew are amateur sailors. Around 25% have never sailed before.

"For people like me, with little sailing experience the challenge is huge" says Alan. "I have been training with Clipper since December 2008, learning all aspects of racing an ocean going yacht". As part of the training, Alan is enrolled in a Foundation Degree in Operational Yacht Science, and has completed the RYA Yachtmaster Offshore qualifications in Navigation and Meteorology. "20 years in aviation made that easier to master than learning gybing with a spinnaker!" There are little comforts on board – "no bedroom, just bunks amongst the many sails." There is also no fridge, no luxurious bathroom and basic cooking facilities. "We do bake fresh bread every day though – great for morale as much as anything!"

It is not just the cramped space and stormy weather that make this hard. "We essentially work 4 hours on, 4 hours off when racing the boat – and that is both physically and mentally challenging" he says. All of the boats are sponsored by either a city, region or tourist board. Singapore, California are just two – but Alan is thrilled to be representing Ireland on board 'Cork Clipper' – a boat backed by DiscoverIreland.com "This is truly a global race with people from all over the world, aged between 21 and 65"

Clipper is the brainchild of Sir Robin Knox-Johnston, the chief executive of Clipper Ventures. Sir Robin was of course the first person to circumnavigate the world non stop in 1969. "Meeting Sir Robin for the first time is quite something – an awe inspiring person" Sir Robin points out that more people have currently been up Everest than have sailed around the world.

Alan has taken a break from his career in air traffic control and has self-funded this trip to fulfil a lifetime dream. He has, however, chosen to support a charity that he has been involved in since 1995 – Flying Scholarships for the Disabled. "Since I started working as a volunteer at the Royal International Air Show in 1994 I have always been in admiration of the work of the FSD team, and the scholars themselves."

It would be great if anyone can help Alan by sponsoring him. "All money will go directly to the FSD charity, and I would like to raise enough money to get at least one full scholarship. Everyone remembers their first solo with huge excitement and a feeling of achievement – and if we can get just one person through that feeling, this will be great"

You can see more at Alan's website – *www.sailtheworld.org.uk* which will give a link to the FSD sponsorship page. For more information on the race itself – see *www.clipperroundtheworld.com* where you can even track the boats when racing begins.

Alan in full Round the World foul weather gear.'

The Flying Heritage Collection, Paine Field, Everett, USA

PAST MASTER JOHN HUTCHINSON

For anyone planning a trip to the Pacific Northwest of the United States, I would thoroughly recommend a visit to the remarkable Flying Heritage Collection (FHC) of immaculately maintained vintage aircraft, to be found in a beautifully restored 1940's vintage hangar at Paine Field near Everett, about 30 minutes drive north of Seattle (*www.flyingheritage.com*). All these aircraft have been carefully selected and are most lovingly cared for thanks to the passion of one man, Paul G. Allen co-founder of Microsoft. The Executive Director of FHC, Adrian Hunt, was kind enough to invite me round for a personal tour of the collection recently on a beautiful sunny summer's day.

The Me 109 and the beautiful Curtiss JN-4D Jenny

Paul Allen officially opened FHC on the 64th anniversary of D-Day, 6th June 2008, with the aim of enabling a wider public to share and enjoy his passion for vintage warbirds. There are 14 flyable aircraft in the hangar, 10 of which are flown regularly, representing the Air Forces of the five major combatants of WW II; Germany, Japan, Russia, USA and Britain. There are also four non flyable exhibits; a Me 163 Komet, a Fiesler Fi 103 V1, a very rare Fiesler Fi 103 Reicheneburg piloted V1 (did you know there was such a thing?) and the nose section of a Lancaster bomber.

The spacious hangar allows the fourteen flyable aircraft to display themselves in an uncluttered fashion and each aircraft has associated information panels that not only tell you the vital statistics but also the actual history of that particular aircraft. My own personal favourite was the exquisite Curtiss JN-4D Jenny; it's just the most beautiful hand crafted work of art.

There are other interesting things to do in the area. A certain well known manufacturer builds and assembles airliners to the north of Paine Field at Everett and there are tours available around the Boeing facility. Also, on the north side of Paine field itself, you will find the Boeing Future of Flight Aviation Centre and Boeing Tour run by a Foundation whose objectives are to inspire and attract young people into aerospace. There is a large Rolls Royce presence there which delighted me and it is a great place for young visitors to go to. It is instructional and there are many interactive display tools. All in all, that area of the United States is a must for anyone who has not been there and has the remotest interest in aviation. And the scenery is not too bad either!

A trio of American fighters, a P40 Warhawk, a P51 Mustang and a P47 Thunderbolt.

A Powerful Flight-Test Programme

PAST MASTER HUGH FIELD

The Test bed C130's first take off from Cambridge Airport.

Photo courtesy of Marshall Aerospace.

Throughout the 1990s European aircraft designers struggled with a project for a military freighter which could provide capacity between the ubiquitous C-130 and the mighty C-17. The choice of powerplant was a limiting consideration and, over the years, project drawings were seen featuring turboprops and turbofans alternately. Cost considerations favoured an off-the-shelf solution using fans but the operational requirement was shifting with the passage of time and turboprops were selected.

No suitable turboprop in the 10,000 s.h.p. category existed, which left the Airbus design consortium with a requirement for a purpose-built brand-new powerplant. There has always been reluctance for a new project to feature both a new airframe and a new engine and it was decided to commission an engine flying test bed to carry out a programme of risk-reduction flight trials. A contract for the design and conversion of the test bed was signed with Marshall Aerospace on 15 December, 2004.

The Meteorological Research C-130 Hercules, XV208, entered service in 1975 after role conversion by Marshall from a standard Royal Air Force aircraft and 11,807 flying hours later it was retired in 2001 and offered for disposal. Marshall based their flying test bed proposal on the conversion of this aircraft and purchased it as soon as the ink was dry on the contract, finally taking delivery at Cambridge on 27 April, 2005.

The conversion task was, to say the least, major for the test engine developing some 10,000 s.h.p. was to replace the standard 4,500 s.h.p. power plant in the No 2 position. Turning this power into thrust required that the standard four-bladed 13ft 6in diameter propeller should be replaced by one having eight blades and 17ft 6in diameter thus bringing the tips perilously close to the fuselage.

Every discipline was needed at Marshall – aerodynamics, structures, stress, instrumentation, performance, ergonomics and, almost above all, project management. Ultimately it would be up to chief test pilot Iain Young and his team to carry out the 50-hours flight-test programme called for by the contract and from an early stage in the programme it was decided to build a simulator. A C-130 nose was readily available from a scrapped aircraft and the company had all the necessary capability to design and build a realistic simulator with visual system.

Because of the need to make fine adjustments on the test engine a new enlarged No 2 throttle has been placed at the left end of the normal quadrant. To cater for the large disparity between the standard engines and the test unit, a comparator installed in the glare shield gives a simple visual display and throughout the basic airframe-proving flying symmetrical power was used.

Some 800 sensors are used to record the behaviour of the test engine and the basic airframe and much of the data obtained is fed to eight flight-test observers seated at three stations along the cabin. The high internal noise level means that all crew members wear protective helmets at all times.

After three and a half years on the ground a very detailed schedule of systems functioning and ground running of the basic aircraft was needed in addition to the programme of ground running of the test engine before it could be cleared for flight. Some idea of the volume of work involved can be gained from the fact that 30km of wiring was either replaced during the major inspection or as part of the test installation.

As first flight approached the date seemed to the team to be constantly moving off to the right. At Seville, where Airbus had established its military division, reports suggested that the first A400M was well advanced in assembly and even had the engines hung. Was the test bed going to be the critical path to the first flight of the new aircraft? Certainly, the Marshall team were faced with changes, particularly to the FADEC, which had to be fed into the design and it began to look as though the first flight of the test bed would not be achieved before the end of 2008. Finally the design was frozen, ground running completed and the aircraft granted its permit to fly. Only the weather remained critical but on the last day before the Christmas break the sky was clear and the vital flight was achieved.

Nearly five months later the flight-test team can look back on a remarkably successful series of flights. From the airframe point of view a new series of flutter test points was called for, apart from basic handling considerations. For the engine, power increases were applied progressively with full power at altitude being achieved on the third flight. As much as data was being gained on the engine, so it was necessary to learn about the characteristics of the propeller. The first relight trials have been successful, giving the team confidence that power can be recovered in the unlikely event of an unplanned power loss. Taking off with full asymmetric power was clearly one of the ultimate challenges but the aircraft behaved exactly as the simulator had predicted.

There are few major flight-test programmes in the UK nowadays and first flights by a new type are rare. Marshall has risen to the challenge of an unusually demanding task and has thereby played a key role in the gestation of Europe's new military freighter.