



AIR PILOT



INSIDE
FALKLANDS 40 YEARS ON:
VETERAN RETIRES
COBHAM LECTURE
‘JUST CULTURE’ IN NZ



THE HONOURABLE COMPANY OF AIR PILOTS incorporating Air Navigators

PATRON:

His Royal Highness
The Prince of Wales
KG KT GCB OM

MASTER:

Capt Robin B Keegan FRAeS

CLERK:

Paul J Tacon BA FCIS

Incorporated by Royal Charter.
A Livery Company of the City of London.

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Except where specifically stated, none of the material in this issue is
to be taken as expressing the opinion of the Court of the Company.

DIARY



With the gradual relaxing of lockdown restrictions the Company is hopeful that the following events will be able to take place 'in person' as opposed to 'virtually'. These are obviously subject to any subsequent change in regulations and members are advised to check before making travel plans.

JUNE 2022

9 th	Company visit	Lasham
14 th	Company visit	Fiennes Group
16 th	GP&F	APH
21 st	Flying Club visit	Shobdon
29 th	T&A Committee	APH

JULY 2022

1 st	Flying Club visit	Sandown
10 th	Master's Garden Party	Andrewsfield Airfield
14 th	GP&F	APH
14 th	Court	Cutlers' Hall
19 th	APBF	APH
19 th	Summer Supper	Girdlers' Hall
24 th	Flying Club Open Day	White Waltham
28 th	Ray Jeffs Cup charity golf competition	Hartley Wintney

Cover photos: Air Pilots (L-R) Glen Fricker, Pete Hughes and David-John Gibbs with Classic Wings' Dragon Rapide at Duxford after a busy day conducting passenger flights in the Harvard, Rapide and Tiger Moth respectively (PilotPix); Falklands veteran Bravo November (Crown copyright)

Applications for Visits and Events

Please kindly note that we are ceasing publication of printed 'flyers' and application forms for visits and events. From now, details and applications for all visits and events will only be available online - on the website and via links in the e-news and events bulletins which are circulated by email to members.



Access the Company's
website via this QR code,
or follow us on
Twitter; @AirPilotsCo



A MESSAGE FROM YOUR EDITOR...



Qantas' order of Airbus A350-1000s for its planned 'Project Sunrise' non-stop flights from Australia to New York and London ends a long period of speculation on whether the project would ever fly. If Qantas sticks to its timetable and introduces these flights in 2025, it will be 90 years since it first

offered a Brisbane-London service via Singapore, India and Egypt which took 12 days and 31 stops to cover 11,083nm (20,525km), and 87 years since the introduction of the Shorts C-Class flying boats on the Empire Air Mail Service reduced London-Sydney to a mere nine days for a fare of £160...

For passengers, Project Sunrise flights sound (up to 21h of confinement in an airborne tube notwithstanding) rather pleasant. First Class suites will each have a separate bed, recliner lounge chair and personal wardrobe; there will be a more luxurious Business suite and increased seat pitches in Economy, and a dedicated "Wellbeing Zone". There will be only 238 seats in total, in an airliner normally configured for up to 410. For crew, however, it may be a different prospect.

The Sunrise flights will be anything up to three hours longer than the current longest non-stop service (Qantas' London-Perth route) which implies an extra hour or two of duty for every crew member; whether in cockpit or cabin, and there is no guarantee that either type of duty will be a straightforward extension of what they do currently. Qantas has trialled the Sunrise service on delivery flights of some of its Boeing 787s, with crew performance and physiology being closely monitored, and 50 hand-picked guest passengers who could be reasonably relied on not to be disruptive (intentionally or otherwise). That might not be the case with "regular" passengers, be they accompanied by fractious children, stressed by long confinement or uninhibited through prolonged alcohol consumption – all will be an extra challenge.

For an airline, the costs of operating such flights will be another challenge. Current estimates put the direct operating costs of a return non-stop London-Sydney flight at around £450,000, not least influenced by the need to uplift the complete journey's fuel at the beginning of each flight, with consequent extra carbon emissions over a conventional "stopping" flight. A Business-class fare London-Perth non-stop is currently around £4,500, so London-Sydney will be dearer, and costs (and fares) will presumably be a lot higher in three years' time. Even so, they may seem a bargain against those of 90 years ago: that £160 fare of 1938 would be £11,500 now...

Allan Winn - Editor

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Guidelines for submissions to Air Pilot

Please submit contributions as follows:

- Text in word document, including your name below the title of the piece;
- No embedded photos;
- All images to be sent as jpeg files with a file size of at least 2MB;
- Attachments totalling more than 15MB to be sent via WeTransfer only.



2022 AGM

The AGM of the Company was held on 21st March at Merchant Taylors' Hall, preceded by the Company's annual church service at St Michael's Cornhill and followed by the Installation of the new Master, Warden and Assistants, and dinner. Here are some of the highlights, held over from the April issue because of the tightness of printing deadlines for that issue.



Abbey Road? No, the Master's procession crosses Cornhill in the City of London.



The annual church service begins at St Michael's, Cornhill.



During the evening this brooch was presented to the Company by Liveryman Vic Flinham. Originally commissioned by Vic's father when he was Master of the Needlemakers, to be worn by his wife at that Company's events, and inherited by Vic's wife Christine, the brooch will now be worn by the Consort of the Master Air Pilot.



The Master and Wardens prepare to receive the Members of the Company.



FINANCE REPORT

*By the Hon Treasurer,
Liveryman Nick Goulding*

The Honourable Company's financial result for the year ended 30th September 2021 was an operating surplus of 15.9% of total income compared with one of 3.2% of total income in 2020. This arose because of the reductions in costs incurred due to the restrictions in activities brought about by the pandemic.

Total income in 2021 was approximately 2.8% lower than in 2020 due to the loss of income from functions and ceremonies caused by the restrictions on activities from March 2020 onwards. Some 57% of total income arose from Quarterage and Livery Fines, with the balance received from the Gladys Cobham Trust and increased investment income, together with a much lesser amount from functions and ceremonies (although this was compensated for by a reduction in the associated costs).

On the expenditure side, total operating costs were approximately 16% less than in 2020 but as indicated, this was largely from savings in costs of functions and ceremonies due to the lower activity level in the year. As a substantial proportion of annual expenditure is recurring, there was little variance in other cost levels for each category of expenditure between 2020 and 2021, with the major items in 2021 comprising staff costs (50%) and accommodation and administration expenses (21%). The other major items were Air Pilot (13%), the net cost of Functions and Ceremonies (5%) and investment management costs (4%). Expenditure in the remaining cost categories was smaller individually.

INVESTMENTS

The Income and Expenditure account also includes items which do not form part of the operating results but are dependent upon changes in the valuations of the Honourable Company's investments which are managed by our advisers, J M Finn. The accounts record separately the realised gains on disposal of investments and the



unrealised surplus on the annual revaluation at 30th September of the investment portfolio. A small surplus arose on disposals in the year, calculated not by reference to original cost but on valuation in September 2020. The Income and Expenditure account also includes substantial increases in unrealised gains both in the 2020 and 2021 years, which demonstrate how much the portfolio has benefitted both from the general increases in investment values in recent years and the portfolio selection decisions made by our investment advisers.

The balance sheet of the Honourable Company increased in value between September 2020 and September 2021 by 9.7%. The largest category of assets in the balance sheet is our investments which represented 76.3% in September 2021. The balance sheet also includes the Company's share in the ownership of Air Pilots House which, together with other fixed assets such as office equipment and net current assets, amounts to the remaining 23.7%.

OUTLOOK FOR 2022

We are some six months into the current accounting year and no longer face the uncertainty over the timing of lifting of the restrictions which had such a direct impact on the scale of the Company's activities, particularly its functions and ceremonies and their associated income and expenditure. However, recent increases in inflation levels are leading to a range of increases, particularly in energy costs. This tends to impact many cost categories, and operating costs can therefore be expected to rise over the next 12 months or more. Overlaying these inflationary increases are the consequences of the conflict in Ukraine. It is therefore difficult to predict the outcome on cost levels for the remaining six months of the accounting year and beyond. However, the ownership of Air Pilots House provides us with far greater control over occupation costs than was the case previously. Therefore, despite the many uncertainties, it is anticipated that the modest operating surplus budgeted for 2022 can be achieved. Although larger operating surpluses were achieved in 2020 and 2021, these are non-recurring, having arisen from the reduction in costs associated with activities impacted by the pandemic. □



*The Assistants present at the AGM. Standing: Steven Dean, Seb Pooley, Chris Palmer, Stephen Durrell, David Singleton
Seated: Peter Taylor, David-John Gibbs, Christine McGee, Mark Tousey, Ed Pooley*



The Air Pilots House Secretariat: The Master and his Consort Eileen with James Ng, The Clerk, Eloise Cummins, Anna Sykes and Angie Rodriguez.



The pre-AGM Dinner reception



Members and their guests dine in the splendour of Merchant Taylors' Hall

NEWS ROUNDUP



VISIT TO WILLIAMS F1

By Liveryman Denis Wood

On 14th March, a Spring-like day, 30 Air Pilots gathered at the Williams Racing headquarters near Wantage in Oxfordshire.

Displayed outside the entrance were a racing car and pit-stop crew cleverly created from topiary. Just inside the main concourse, proudly displayed on a raised dais, was a Williams F1 racing car which had been driven by Riccardo Patrese.

John, our host for the day, has worked at Williams for 17 years and he was technically extremely knowledgeable on the many car developments over the years. Before being shown into the museum we were allowed to peer in through the door of the Prepare and Testing room where secrets were closely guarded – no photographs were allowed.



Topiary greets the visitors

We then moved slowly on through the museum where John explained the various upgrades as the years went by to the 36 cars displayed, details of which are too

numerous to mention here. In 1979 Clay Regazzoni gave Williams its first win at Silverstone. The first car displayed in the museum was Australian Alan Jones' 1980 mount powered by a Ford Cosworth V8 engine in which he became world champion, with Williams also winning the constructor's championship. Worthy of note was the introduction of the carbon-fibre chassis in 1984 and a remarkable six-wheeled version, with four driven wheels at the rear, which proved to be 1.5sec faster than the conventional layout in pre-season testing. This car was never raced as the controlling body, the Fédération Internationale de l'Automobile (FIA) promptly banned it! All 36 cars, several which had been Grand Prix winners, were beautifully displayed.

During the 1980s and '90s The Williams was the favoured car to drive. Famous drivers included Senna, Mansell, Hill, Rosberg and Prost to name just a few. For six years from 1989 the Williams F1 was powered by a Renault engine, and this was a winning combination.

An interesting feature involved the height of the roll-over bar behind the driver's head, according to their stature,

and the fact that the coaming panel in front of the driver was redesigned for Ayrton Senna which allowed more room for his favoured larger steering wheel.

Senna's death at San Marino in 1994, which affected Frank Williams very deeply, brought about a number of rule changes. His accident is well-documented, but it seems most likely that a reduction in tyre pressure lowered the ride height of the car thus reducing the flow of air under the car, reducing the downforce and thus the cornering



The Air Pilots group with Riccardo Patrese's car (Jeff Cleary)

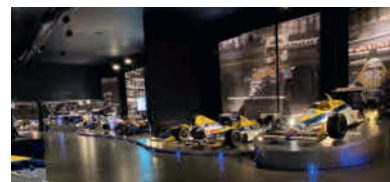
speed. John remarked that the design of the under-surface of the car has become a serious design feature of the current 2022 cars – we shall see.

Looking at the design features of the cockpits of F1 cars and the complexity of the number of switches and buttons on the modern steering wheels, I live in awe of the drivers' extraordinary abilities.

Many years ago, I had the dubious experience of being driven by a then-F1 driver around the Nurburgring circuit in his road-going Daytona Ferrari. If you think you are a quick driver, I recommend this experience!

During the day we enjoyed a splendid buffet lunch. A big thank-you goes to John for his patience in answering the many technical questions asked by our very knowledgeable members and to Chris Ford and David Curgenvin for organising a most memorable visit.

Good Luck to Williams F1 for success in 2022 with their new drivers Nicholas Latifi and Alex Albon. □



Some of the 36 cars on display,



VISIT: RAF LAKENHEATH

By Upper Freeman Mark Flynn

April 19th saw some 43 members of the company and their guests, including the Master, Capt Robin Keegan, enjoy a visit to RAF Lakenheath, as guests of the 48th Fighter Wing; specifically, the 494th Fighter Squadron (FS) – ‘The Panthers’ - operators of the hugely impressive McDonnell-Douglas (Boeing) F-15E Strike Eagle.

A warm welcome and handshake from Colonel “Crash” Hutto preceded a briefing by Liveryman Terry Holloway on the long history of the base, and of the area.

LAKENHEATH HISTORY

First used by the Royal Flying Corps as a bombing and ground attack range for aircraft flying from RAF Feltwell, nearby, Lakenheath’s first paved runways were laid down in 1941. RAF operations from the base initially involved the Short Stirling, and Australian Pilot Officer Ron Middleton, flying a Stirling from Lakenheath on a mission to Turin in November 1942, was awarded a posthumous Victoria Cross.

After the end of the second World War, the first United States Air Force Europe unit hosted there operated the Boeing B-29 Superfortress. Various units and aircraft types followed thereafter, before Lakenheath saw the arrival of the 48th Tactical Fighter wing (TFW) in 1960.

Whilst the 48th TFW was based in France at Chaumont, the discovery that the Statue of Liberty had been designed by a local man, Frederic Bartholdi, prompted the unit to adopt as its emblem the Statue of Liberty herself, holding aloft the torch, with the motto Statue de la Liberte in a scroll below.

DETAILED BRIEFINGS

Following this briefing, the party split into two groups. One remained in the operations block for a briefing on the F-15E Strike Eagle”, the unit’s role, its capability and a demonstration of the equipment worn and used by the crewmembers. The other proceeded direct to the flight line to view “up close and personal” the F-15E itself, before the two groups swapped over.

The comprehensive briefing, given by 1st Lt Conor Sullivan, who described himself as a “Wizzo” or Weapons System Operator (WSO), and 1st Lt Austin Leake, his pilot, was informative and fascinating. The capabilities, performance and load-out options of the F-15E were described and discussed. Whilst not specific enough to



Members get a comprehensive briefing (Vic Flintham)

contravene any official secrets, it was still comprehensive enough to leave an impression of a truly capable, versatile aeroplane – an asset to any military’s inventory. Conor’s and Austin’s enthusiasm for their mount shone through.

A comprehensive history of the deployments the

Panthers have undertaken from Lakenheath with the F-15E over the last few years, most of which have been “...pretty sandy in nature” according to Conor, underscored the very real role that this base, its service



Ramp briefing from “Spear” (Alan Jackson)

personnel and aircraft play in our defence.

With the Company members attending having, for the most part, a background of airline, or general aviation and being unfamiliar with fighter operations, a lot of the briefing and discussion was a learning experience. We learned something of tactics, that what we once knew to be a “dogfight” is now seemingly referred to as a “furball”. Also, to help us understand a modern fighter-pilot’s world, it seems that selecting a long-range missile against one’s opponent is like taking a rifle to a fight; if you need to select the short-range missile from your load-out options, you can liken that to a pistol fight; and should you need to “go to guns” then think of yourself as being in a knife-fight! Conor and Austin made clear that their Strike Eagle is ready for all comers.

Thereafter a comprehensive demonstration followed of the flight crew’s equipment, flight suits, vests, life jacket, built-in survival gear (every bit of which was functional in the extreme) and the flight crew’s helmet and visor, a masterpiece of technology and capability.

ON THE FLIGHTLINE

For the flightline visit, Captains Joshua Bezold and Sean Blye, alias “Spear” and “Ice”, escorted us through flight operations, past the most magnificent, huge, vivid painting of an F15 in full flight, down on to the ramp to visit the flightline and inspect one of the aeroplanes.

Although the flight line was busy, with aeroplanes being worked on, F-35s taxiing past to the runway, maintenance in progress etc, we were able to see the Strike Eagle for ourselves. With the two Captains on hand to answer (most patiently) our questions, the hour or so we spent beside the aeroplane, walking around it, inspecting it and frankly being awestruck by it, went very quickly.

There followed a lunch in the “Panthers Pub” and an informal get-together with several of the squadron personnel, after which the Master gave a short speech of appreciation, a gift of a company plaque and a cheque to the squadron’s charity.

The day was fascinating. We are all very much indebted to Colonel T J Graham, the Assistant Air Attaché at the US embassy in London, who made this visit possible, to Graham Powell whose work enabled this visit, to the United States Air Force and RAF Lakenheath for hosting us and giving us such an interesting and enjoyable visit. Our most courteous, efficient and slick entry onto the base resulted from some hard work behind the scenes by both "Spear" and "Hitman" – Capt. Patrick Brown - who

we were unable to meet due to a last-minute change in his flying programme.

For my own part, though, my lasting impression is of an extremely capable aeroplane - or rather weapons system - whose capabilities are enhanced by the sheer professionalism and enthusiasm, the dedication and immense hard work that the young men and women of the 494th FS, of the 48th TFW at RAF Lakenheath diligently apply to their task. □

THE AIR PILOTS GOLF DAY

By AP Golf Society Secretary Danny Hendry

On 4th May 2022, after over a two-year break due to Covid, The Air Pilots Golf Society held a day at North Hants Golf Club in Fleet. This venue has been a popular one for its Members in the past not only for the quality of the course, but it was the course on which Justin Rose developed his golf experience.

The Golf Society was formed in 1972 at the instigation of then-Master Capt Norman Bristow, who donated the first trophy, the Bristow Rose Bowl, for an annual competition. It was therefore fitting that our Members were competing once again for the Bristow Rose Bowl. It has been a difficult time with the Society in recent years due to our depleted numbers, and despite lobbying for new Members our day consisted of 11 regulars and two guests. We were very fortunate with the weather, and all parties had an enjoyable game. Following our golf game, we all sat down in the dining room for a most enjoyable lunch, and great conversation.

During coffee, we held our AGM, and re-elected our Captain Derek Buck, whose term of office had been suspended during our Covid break. We discussed the

future of our Society, because of the continued decrease in numbers. We were a Society which once held four events a year; however, now even one event would appear to be a bonus. The mood of all was at least to maintain an event a year, and it appeared that North Hants was a suitable venue.

Finally it was time for the presentation of prizes by Derek Buck, who presented the main prize of the Bristow Rose Bowl to Danny Hendry.



Golf Society chairman Derek Buck presents the Bristow Rose Bowl to Danny Hendry

The charity Inter-Livery golf competition organised by the Company for the Ray Jeffs Cup will be held at the Hartley Wintney Golf Club on Thursday 28th July. Members interested in entering, or joining, a team of four should contact Liveryman Rick Thomas, rick747436@gmail.com □

LUNCHEON CLUB TALK: PM DOROTHY SAUL-POOLEY ON THE EARLY LIFE OF PM FRANK DELL

By Liveryman Hugh Dibley

Like many, I greatly respect PM Capt Frank Dell, having served with him on the Court and, on hearing that PM Dorothy Saul-Pooley was to give a luncheon talk about his early life, I felt compelled to come.

Dorothy started by giving the many coincidences leading to her talk about Frank – living in Shoreham, interest in flight instructor training, membership of the Sussex Yacht Club, Dover College where Frank like her father won a scholarship and his being Master during the year (1988-89) when she learnt to fly. Dorothy had been drawn to the story of Frank Dell, ably assisted by her mentor Clive Elton, who had pointed out Frank's book which had just

been published – coincidentally in her year as Master 2014-15 - *Mosquito Down*, a must-read, available on Amazon.

Dorothy had spent time with Frank in Sydney where he lives during her year as Master then, having read his book, asked to see him again during a visit to the Antipodes in 2017. Frank, then 94, had talked lucidly as if yesterday, retelling stories from his childhood and schooling, stories of his father, followed by a graphic



The speaker - PM Dorothy Saul-Pooley



PM Frank Dell's story is a fascinating one

account of his time in the war culminating in flying on Pathfinder Mosquitos, his shooting down and his dramatic escape. This incredible story is covered more fully in his book, but he also had other things to tell and discuss of mutual interest which she could share in her talk.

Having covered his fascinating story up to this point, Dorothy went on to summarise Frank's postwar career, including his senior roles with British Airways and the CAA, as well as his term as Master of the then-GAPAN. □



Major Timothy Paschke USAF was presented with his Master Air Pilot certificate No. 1282, at his retirement ceremony at RAF Mildenhall on Friday 29th April 2022.

GAZETTE

APPROVED BY THE COURT 12TH MAY 2022

ADMISSIONS

As Upper Freeman

Andrew ANDRIS
Anthony BAINES (HK)
Edward Ernest EWBANK (NZ)
Mark Richard FUNSTON (OS)
Jean Andre JOUBERT (OS)
Shaun Patrick KENNY (OS)
Christopher MAGGS
Darren Nicholas PALMER (HK)
Steven POTTER
Chris van SCHALKWYK (HK)
Kevin Anthony Swayne SIMMONDS (OS)
Peter Alexander TEICHMAN
Daphnie Delicia TSUI (HK)
Brett Edward TUOHY (AUS)
Donovan James WAITE (OS)
Shaughn Heinrich WEIDEMAN (OS)
Nicholas John WINSPEAR

As Freeman

Peter Barton CARTER (AUS)
Babok HOSSEINIAN

Matthew William POPPLESTONE
Richard Geoffrey POXON
Daniel RANDELL

As Associate

Megan BOWDEN
Joshua DAVIES
Daniel James DONNOR
Andrew KING
Eva Ivy Peta GRINDLEY
Craig Neil JARDINE

ACKNOWLEDGED BY THE COURT 12 MAY 2022

REGRAIDING

To Livery

Alan WRIGLEY
Martin BLAZE

As Freeman

Chantal DIDENKO
Dominic REGISTE

DECEASED

John CROCKATT
David HOLLOWAY
Ross MARLAND
Paul NICHOLAS

RESIGNATIONS

Brian BRAID
Michael BRUCE
Abigail CROFT
Kim LYSAK (NA)
John MURRAY
Pat RANDALL
Timothy WAITE

FORFEIT ALL BENEFITS

Mark BENNISON (OS)
John DAVIDSON
Mahmoud FAISAL (OS)
Tilman GABRIEL
John HENSHALL
Sebastian KRZYZEWSKI
Steven MONK
Utsav MUKHOPADHYAY (OS)
Terry RAWLINS (OS)





MASTER'S MESSAGE

By The Master, Capt Robin B Keegan

The end of May, and still the war in Ukraine goes on. As a non-military man, it's difficult to see what is the logic

for the various tactics used by the Russian forces. If the objective was to rapidly overrun the country and install a puppet government, then that has clearly failed. Even if it had succeeded, it is difficult to see how the invasion force would effectively 'police' a country as large as Ukraine where most of the population would hate the occupying forces. Clearly there are age-old tactics at play such as claiming that ethnic Russians have been persecuted by the Ukrainian majority – a similar tactic to that used by Hitler prior to the invasion of Poland. Another tactic is that of 'putting the city in the streets' whereby all buildings and infrastructure are bombed and shelled, filling the streets with rubble. Why destroy so much housing and infrastructure if the ambition is to take control of the country? The re-building cost, whoever wins, is going to be astronomic.

We are indeed fortunate that the guest of honour at the Livery Dinner (after this issue of *Air Pilot* went to press) was due to be Liveryman Colin Bell, who planned to give a talk entitled "Hitler and Putin, The March to War in Europe, Comparisons and Contrasts". As an ex-Mosquito Pathfinder pilot in World War Two and now at 101 years of age, Colin will have brought a unique historical perspective to the Ukrainian conflict and the lessons from the past.

SCHOLARSHIP RECORD

By contrast, a happier event is that the selection process for the Company PPL Scholarships has been completed and the winning scholars will be eagerly anticipating the start of their respective PPL courses this summer. Hopefully, the weather will be kind and allow for good continuity of training and completion within the allotted timeframe. It has been another record year for PPL Scholarship applications. Last year was a bumper year but this year has exceeded it. This keeps the sifting teams busy, which is a nice problem to have - but reducing the 652 hopefuls down to 10 scholarship winners is a somewhat daunting task.

Assistant Kat Hodge and her scholarships team do a

brilliant job in running the selection process, and it is most pleasing to see that some of our young members and previous scholarship winners are actively involved in the selection and interview process. The certificates that the PPL Scholars receive on completion of their PPL courses are presented after the Court meeting in November. Those Court members who have attended previous PPL Scholarship award evenings have always enjoyed hearing about their experiences and say that the PPL Scholarship winners always bring such delight and enthusiasm to the evening. The winners of the 15 Gliding Scholarships will not be far behind nor will the three Flying Instructor Scholarship winners. Congratulations to all.

IN MEMORY OF THE PATRON

The Service of Thanksgiving for the life of our Patron, HRH The Prince Philip, Duke of Edinburgh, at Westminster Abbey which Nick Goodwyn and I attended on behalf of the Company was both moving and in places light-hearted, when various speakers gave their differing recollections of his great character and personality.

There is a perception that the Master's year is largely composed of invitations to various lunches and dinners. Well, there is a lot more to it than that thankfully, otherwise my waistline would suffer! David Curgenvin and the Visits Committee arranged a trip to RAF Lakenheath recently to visit one of the F15 Strike Eagle Squadrons based there. We were looked after very well by the American crews with a comprehensive brief on the aircraft and its capabilities and with a visit to the flight line to look around the aircraft. Despite the original design dating back to the mid 1980s, it is still the aircraft that military commanders call for due its unbeaten record in combat.

Another memorable event was the recent Cobham Lecture. We were all enthralled by the talk given by Professor Anu Ojha OBE who is the Director of the UK National Space Academy. Anu spoke for over an hour without the use of notes but accompanied by a fantastic audio-visual presentation. His enthusiasm for space exploration is infectious. Anu is also a member of the Scientific and Technologies Facilities Council (STFC) which is the UK senior strategic body studying astronomy, high energy physics and nuclear research.

Since its launch in 2008, the UK National Space Academy has trained over 6,000 teachers and 55,000 secondary, further education and university students: an astonishing



Receiving F-15E artwork at Lakenheath (Vic Flintham)

number! However, I must record my thanks for two presentations. At Lakenheath, I accepted on behalf of the Company a fine drawing of an F-15E signed by all the members of the Squadron and at the end of the Cobham Lecture, Professor Ojha presented a copy of the poem High Flight which had flown in the International Space Station. Both these gifts are gratefully received and will be put on display in Air Pilots House. Fuller write-ups of these two events appear elsewhere in this issue of *Air Pilot*.

TOURING PLANS

Having decided to split the Master's Tour, in order to visit Canada and the USA in July and August, I can report that initial preparations are underway, although final decisions have yet to be made. The Tour is essentially a working trip and involves visits to various organisations including ICAO and IFALPA plus a number of Government Agencies such as the FAA, NTSB and Transport Canada, although the after-effects of Covid may still play a significant part in the choice of final itinerary. Looking to visit our branches in the southern hemisphere in November, it is pleasing to see that New Zealand has now re-opened its borders. At one stage, Australia seemed the only country that could be guaranteed to be on the itinerary, although Hong Kong still seems problematic at the time of writing. Fortunately, there is still enough time for things to improve in Hong Kong. Whilst I am writing about our Regions, we are very lucky to have them, and their members are highly valued. We are the only Livery Company to have overseas branches, but I have often wondered if there are pilots in other

countries who might like to form new branches to add to our overseas network. Past Master Capt Colin Cox has a view that a branch in the Middle East, probably centred on Jordan, might be viable and I feel that India might also be a possibility. We share many historical links with India, English is not only the international language of aviation but is also widely spoken in India and prior to Covid, aviation was booming there. However, any new overseas branches cannot be organised from Air Pilot House, as it really requires a group of pilots based locally to ask to start one up and then help and advice can be offered regarding the correct process. I hope this message might prompt a few ideas!

Before Eileen and I depart for Canada and the USA, we will be hoping for fine summer weather for the Master's Garden Party. It's a bit of a misnomer really, as it's not usually held in a garden, but more often at an airfield. This year we will be holding it at Andrewsfield on Sunday 10th July. Planning is reasonably well advanced, and it is already confirmed that we will have an area on the airfield set aside for both aircraft and car parking together with a marquee for Company members and their guests. Aircraft landing fees will be waived, and we have now booked a hog roast for catering. Fuller details will be published nearer the date on the Air Pilots website. None of this would be possible without David Curgenvén's organisational skills and the generous co-operation from Carol Cooper and Mike Rowland at Andrewsfield. We hope to see as many of you there as possible.

Aviate safely.



REGIONAL REPORTS

North America

By North American Region Chairman, Liveryman Simon Laurence



As the North American Region shakes off winter and heads into spring, the aviation theme for the period could be regarded as: "Look how far we've come." A recent review of the USTSA

passenger screening numbers shows levels close to the numbers seen before the pandemic. The data for passenger screening show numbers reached 90% of the pre-Covid levels when viewed on April 21, 2022. A comparison of 2020 on the same day shows exactly "how far we've come" in the last two years.

US Transportation Safety Administration Passenger Screening for April 21 of each Year			
2022	2021	2020	2019
2,279,905	1,509,649	111,627	2,526,961

While passenger numbers are rebounding, costs and delays are also rising as carriers struggle with staff shortages, increased flight numbers, intense weather delays and high fuel prices. All forms of aviation are having issues finding and retaining qualified staff. At a recent FAA forum, one operator was quoted as saying: "We used to have staff on the ramp with 15-20 years of service and now we are lucky if they have 15-20 months of service." Several of the US major carriers have been unable to meet their pilot hiring goals, which is a new phenomenon in the world of pilot hiring.

Meanwhile, Canadian numbers are also up, with Canada admitting more than one million travellers during the week of 11th April 2022. This is the first time this has been achieved since the pandemic began. While these numbers are definitely an improvement, the visitor numbers are still down 44% from the 2019 level.



A replica of the Wright Flyer

A SPRING VISIT

With the spring weather, getting outdoors is obviously a lot more enjoyable. Recently my wife and I, on a nice spring day, took the opportunity to visit the

Wright Brothers National Memorial. The memorial park is part of the US National Parks Service and is located

on Bodie Island (pronounced "Body") part of the state of North Carolina's Outer Banks. The memorial "... commemorates the first manned, controlled, and powered air flight of a heavier-than-air machine on December 17, 1903." The park is near the town of Kitty Hawk, NC and covers an area of 428 acres (171 ha). Included in the park is a Visitor Center which contains a full-scale reproduction of the 1903 Wright Flyer (the original resides in the Air and Space Museum in Washington, DC) and visual exhibits explaining the story of the two brothers' perseverance, engineering savvy and success making the notable flights, while experiencing harsh physical and environmental conditions in the process.

Outside the Visitor Center are walking trails to the actual location where the Wrights flew which includes markers signifying the distance of each of the four historical flights made on that windy December day. The fourth flight they completed was into a 24kt headwind and was the longest, lasting



The Wright Brothers Memorial

59sec with a distance flown of 852ft (approximately the length of three-and-a-half Boeing 747s nose to tail). Near the markers are two reconstructed hangars that the Wrights used for preparing the Flyer and also served as living quarters. The park contains the 60ft monument to the brothers atop Kill Devil Hill, which is a 90ft sand dune that is stabilized by a grass covering. Within walking distance is the First Flight Airstrip which has a 3,000ft paved runway available for general aviation aircraft. There is also a life-sized bronze sculpture of a Flyer depicting the historic flight.

As we were leaving the park, I suddenly realized how much I owed the Wrights. Having spent almost 50 years flying airplanes and having had a long career in aviation it was very apparent that I had "piggybacked" on their hard work and I was definitely in their debt! I silently thanked them for being so focused on their goal of powered flight. It also highlighted my earlier statement of "look how far we've come."

If you ever get to Eastern North Carolina put the Wright Brothers Memorial on your list of "must visit" places. It's definitely worth the time, especially on a nice spring day. □

Regional Report: Hong Kong

By New Hong Kong Chairman, Liveryman Valerie Stait

I am honoured to take over from Capt Pat Voigt as Chair of the Hong Kong region during our 40th year. Pat, previous Vice-Chairman Michael Dreghorn and



Change of Chairs – Pat Voigt hands over to Valerie Stait

Honourable Treasurer Martin Harris have navigated the region through many challenges during the last two years and I intend to build on the hard work that he and the General Committee members have

put in. I am very happy to be working with our highly experienced Vice-Chairman Captain Chris Hazzard and a very solid and capable committee.

A QUICK INTRODUCTION

I currently fly Boeing 777s out of Hong Kong, although I spent many years as a London member before I moved to Hong Kong. At the time I was flying Boeing 737s and Airbus A319s for EasyJet and Go, after turboprops and instructing. Gliding is also somewhere in the distant past, and I am keen to bring together pilots from all the areas of aviation that touch Hong Kong. I have a second role working in safety and risk management for Cathay Pacific and specialise in Human Factors. I also work with a variety of external groups and airlines, where you will often see me in my Air Pilots tee-shirt, representing us as Head of Technical and Safety. Vice-Chairman Chris joined Cathay Pacific in 1996 from the Royal Air Force, where he flew the BAe Buccaneer and Panavia Tornado GR1. In Cathay, he spent his first 8 years as a First Officer on the Boeing 747-400 and since then has been a Captain on the three wide body Airbus types. He is a Senior Training Captain and Test Pilot on the Airbus fleet. Chris joined the Honourable Company in 2013 and was admitted to the livery in 2019. He has served on the Hong Kong General Committee for the last two years, most recently as the Head of Awards and Trophies.

As I write, it continues to be an extremely difficult time for aviation in Hong Kong, including the loss of so much talent and just good people from our tight-knit community. My hope is that, through the Air Pilots, we

can be a support to each other through this period and start looking forwards to brighter skies. A significant take-away from the pandemic is that people will always need support, so we are looking at longer-term plans for support and wellbeing in conjunction with London.

A NEW PHASE

Whilst it will be some time until aviation here returns to its previous form, I believe it will evolve into a new phase which will see it ultimately grow and prosper. We aim to make the most of the recovery through encouraging the next generation into aviation and active engagement both in the skies and on the ground. Enabling young people and fostering development throughout a pilot's career is key to the future of both the Air Pilots and the industry. We also have formidable talent within our ranks, so I am currently gathering feedback and ideas from the membership to help us tap into that. I am also keen on fostering ties with other aviation bodies in the region. Recently this has included the Hong Kong Observatory which is a world leader in its field and the Hong Kong Aircrew Officers Association, with whom we are talking about collaboration on future social events and career development.

Though the Chair is a custodian, the Company belongs to the members. We are very grateful for their support through these challenging couple of years. Despite fierce restrictions, we have continued to evolve and are still gaining members. We have just held our first social event since December. This may sound a small thing, but it is a bit of a milestone for Hong Kong, and hopefully the start of things moving forwards. It is so important to get people together right now and we are keeping a close eye on restrictions so we can offer more social events as they allow.

Finally, I very much value our strong links with London and I am keen to further these, as well as build links with the other regions. We also hope to join events overseas and welcome members here in the future, when travel rules allow. I very much look forwards to your good company when we can meet again and toast the Hong Kong region's 40th year in person. □



New Vice-Chairman Chris Hazzard



Regional Report: New Zealand

By *Liveryman Mike Zaytsoff, New Zealand Region Technical Director*

Currently before a Select Committee of the New Zealand Parliament is a bill to modernize this country's Civil Aviation Act of 1990. Written and oral submissions were called for, and the NZ Region responded with our concerns and suggestions for improving the Act.



NZ Region's formal submission

Our two biggest concerns were with how certain clauses did not align with Just Culture principles, and the lack of an appropriate process to appeal decisions made by the country's Civil Aviation Authority (CAA). Before I get into that, however, I must pay tribute to a predecessor of mine. In 2014, Navigator Michael Murray wrote an extensive, well researched, 114-page submission to the NZ Parliament for the Review of the Civil Aviation Act it was conducting at the time. Despite the colossal effort he put into preparing the Guild's submission, regrettably his suggestions were not acted upon. Our current submission^[1] noticeably did not reach the scope and breadth of Navigator Murray's initial submission, but we feel it touched on the issues that were most in need of urgent attention.

INCREDIBLE DISCOVERY

One of the incredible discoveries that came out of the oral hearings was from a private pilot who had been denied a NZ medical certificate. He refused to accept that decision and continued to fly anyway. This pilot, successful in real estate, was initially denied the grant of a certificate because of a medical condition. He appealed the decision through the normal judicial system and won. However, on appeal, the judgment was overturned, and he was left still without a medical certificate. Entirely legally, he found an FAA doctor, to whom he disclosed his medical condition, and was granted a private pilot medical to fly a US-registered aircraft. He then re-registered his NZ aircraft with an American 'N' registration and obtained an American Private Pilot Licence. He proceeded to fly all over NZ in his American airplane on his American licence, 100% legally, even though our local CAA said he could not fly in this country because of his medical condition... As you can imagine, the above revelation dropped more than a few jaws and raised more than a few eyebrows.

Our focus on that situation, along with other examples, was regarding the appeal process for CAA decisions. The New Zealand CAA does have an appeal process, but it's not available for contentious 'meat & potatoes' type issues. Instead, it only deals with benign, side issues. For example, a complainant cannot appeal decisions made about:

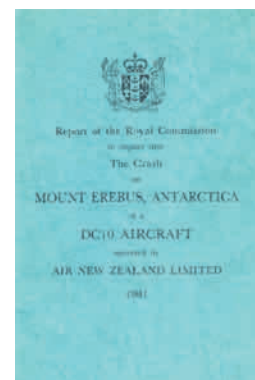
- Consideration of applications for aviation documents;
- The suspension or revocation of aviation documents;
- The consideration of petitions for exemptions from the requirements of the Civil Aviation Rules;
- The enforcement of the provisions of the CAA Act.

Complainants about those issues must proceed through the normal judicial system, which then introduces two new problems, namely:

- The court looks at whether a suspension "was originally justified" rather than whether a suspension "continues to be justified";
- The *potential* lack of subject-matter experts to adjudicate the case.

JUDICIAL EXPERTISE

I use the word *potential* because, of course, members of the judiciary are extremely well-versed in legal matters and subjected to stringent professional requirements. However, it's not a guarantee they will have the appropriate expertise with a field as complex as aviation. Obviously, Justice Peter Mahon of New Zealand and Justice Virgil Moshansky of Canada proved themselves quite adept at navigating complex aviation issues during their public inquiries into the tragedies at Mt Erebus in Antarctica, and Dryden, respectively. But other aviation court cases, such as *R v Tayfel*, 2007 in Canada, have left aviation participants discouraged at the judiciary's inability to delve deeper into extenuating circumstances leading pilots to make poor decisions. (More about that particular court case later). Therefore, the NZ Region of the Honourable Company recommended the establishment of an independent, quasi-judicial appeals commission/tribunal to which aviation participants could appeal CAA decisions.



Erebus case showed that Judges can navigate complex aviation issues

Almost everyone in aviation is well aware of the American NTSB's responsibility for investigating aviation accidents. Its investigations typically garner significant media attention. But one of the NTSB's lesser-known functions is to serve as a quasi-judicial appeals body for decisions made by the USA's regulator, the FAA. The USA's NTSB is a good starting point from which to construct an aviation appeals body for NZ because the NTSB has functioned effectively in that role for many years. Another example to look at is the Transportation Appeal Tribunal of Canada, whose Act was included with our submission^[2].

CONSULTING WITH EXPERTS

More about the Canadian court case *R v Tayfel*. This case was an example of how the legal system values the input from aviation experts before commencing with its deliberations.

Liverymen Zaytsoff and Boyce plead the case for Just Culture

R v Tayfel was the criminal case of a pilot whose Piper Navajo suffered fuel starvation in Winnipeg, Canada and was forced to land on a city street. The lawyers involved had asked what sanctions the professional governing body for the pilot profession had taken against that particular pilot. This was presumably to be used as a starting point for the trial process because that professional governing body would be the subject matter experts for what conduct was considered acceptable for pilots and what was not. As we all know, pilots do not have a legally defined professional governing body similar to those which doctors, lawyers, accountants and teachers have, therefore that line of reasoning was dropped. This court case, however, is a strong example of how aviation-related appeals are best heard in an aviation-centric appeals body.

On an interesting side note, that particular court case, *R v Tayfel*, was the impetus for one of the organizations with which our North American Region is affiliated, the College of Professional Pilots of Canada (www.collegeofpilots.ca). That organization is led by Upper Freeman Capt Tom Machum, assisted by Liveryman Alister Beaton. The College of Professional Pilots of Canada aims to be the legally defined professional governing body for pilots in that country.

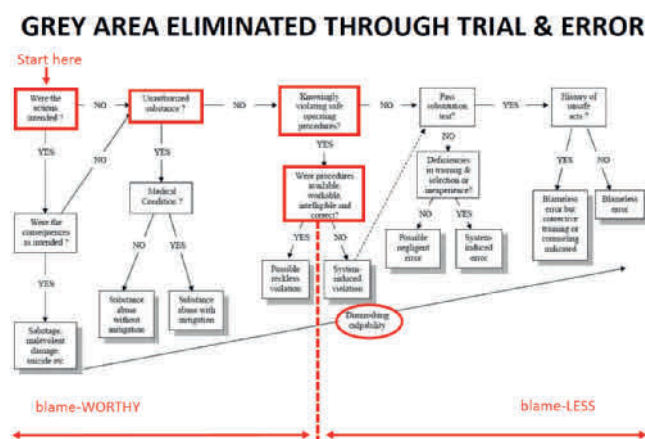
THREATS TO JUST CULTURE

Now on to our other major concern with the CAA Bill: Certain clauses detracted from establishing a Just Culture instead of further developing it. When researching our

submission to the Parliamentary Committee, I consulted my SMS Training Manual from when I worked at Jazz Aviation (operating as Air Canada Express). In it, I found a document called "A Roadmap to a Just Culture" by the Global Aviation Information Network or GAIN. GAIN itself was a branch of the Flight Safety Foundation. This particular document was a fortuitous find because it featured commentary from New Zealand CAA inspectors lamenting how they doubted pilots would accept their intention to follow Just Culture principles. That was because certain clauses in the previous Civil Aviation Act of 1990 made it an offence to cause unnecessary danger to another person. As we all know, it is entirely possible for a fully qualified, well trained, conscientious pilot inadvertently to make an error that causes unnecessary danger to someone. That is naturally accepted human error. But the wording of the clauses in the 1990 Act basically outlawed human error and, consequently, CAA inspectors at the time doubted pilots would find them sincere in their desire to establish a Just Culture. As we all know, without a Just Culture, we don't get the reporting of errors and consequently we cannot improve the aviation system because we don't always know what its defects are.

HUMAN ERROR "OUTLAWED"

To my surprise, in the CAA Bill before the Parliamentary Committee, those particular clauses still contained the same problematic wording that basically outlawed human errors! The only difference between the two Acts was those clauses were numbered 43A and 44 in the old Act, and 40 and 41 of the modernised Act. The GAIN document then made it somewhat easy to develop our submission to the Select Committee because those authors had already done much of the grunt work identifying flaws in the Act. I thank them for their excellent work^[3], which was also included with our submission to the Select Committee. I would also like to express my gratitude to Master Robin Keegan



(Master-elect at the time) for his advice on the Just Culture aspects of our submission.

SUB-COMMITTEE APPEARANCE

So much for the details of our written submission, now onto our appearance in-person before the Select Committee. The entire presentation we made can be found here^[4]. It begins at time index 1:34:52. I won't bother transcribing here what was said word for word. Suffice to say that I made sure to bring to the Select Committee's attention how the wording of the aforementioned clauses has been a known problem for 17 years. I urged the committee to forget for a minute that our presentation was my personal opinion, also to forget that it was the opinion of my Livery Company. It was the opinion of its very own aviation inspectorate that the law seriously impeded its desire to establish a Just Culture within New Zealand.

Evidence of NZ pilots' reluctance to report their errors was on view during Past Master Malcolm White's Tour of the Regions in 2019. The Executive of the NZ Region, along with our Master at the time met with the CAA in Wellington late in the year. During that meeting a CAA manager expressed frustration at the low level of reporting from the General Aviation (GA) community. It would be too simplistic to simply blame those two clauses for the lack of reporting, but those clauses certainly did not help his case. I'd like to think our written and oral submissions will assist that manager's desire to achieve better reporting of errors.

Obviously, I'm biased, but I'd like to think our oral presentation went well. I was grateful to have the Chair of the NZ Region Allan Boyce along with me. Things regrettably went downhill during the question period. I expected to be asked more "gotcha!" type questions that exemplify some North American political committees. I forgot that New Zealand politics is much more benign and when I was asked a couple of easy questions that were outside my expectations, cracks began to form in the show. Thankfully in my back pocket I kept that great line "I'll get back to you.....". It was a great escape to avoid potential awkwardness. And on that final note, you will find^[5] how I got back to the committee with better answers to the questions they asked! □

^[1] https://www.parliament.nz/resource/en-NZ/53SCTI_EVI_115765_TI2275/f0351c07d987710d0573cb13bf5cff35a680dc6c

^[2] https://www.parliament.nz/resource/en-NZ/53SCTI_EVI_115765_TI2277/9d79ca7f34d1853688f5c5d4fa98d7e9b4750dd1

^[3] https://www.parliament.nz/resource/en-NZ/53SCTI_EVI_115765_TI2276/05121c4d5bec780ec3260f171f3afd2a16cf84ef

^[4] <https://www.facebook.com/TISCNZ/videos/931691377506375/>

^[5] https://www.parliament.nz/resource/en-NZ/53SCTI_EVI_115765_TI2581/cf470bf53ce95475e58823a3ac33997656ed38c9



Regional Report: Australia

By New Australian Region Chairman Liveryman Spencer Ferrier

Spencer Ferrier took over the Chairmanship of the Australian Region from Freeman Rob Dicker at the end of March. Here he introduces himself.

I am principally a private pilot and solicitor of more than 40 years in practice in Sydney, dealing mostly in aviation legal matters. I have been a member of the Honourable Company since 1986, and was admitted to the Livery in about 1998. When the Australian Region took up the new accolade of Honourable Company, I drafted and implemented the documentation for Australian legal consequential documents, including the corporation which

was formed in Australia at that time.

I have about 2,000h in GA aircraft, mostly Piper, Mooney and Cessna but including Beech and the Aero Commander. I have a multi-engine endorsed and a (lapsed) command Instrument Rating under Australian law. I formerly held a US Pilot Certificate but although having flown extensively in the USA, have mostly done so as co-pilot and passenger.

My present aircraft in Australia is a co-owned Jabiru 230C, which is a Recreational Aviation Australia day-VFR registered light aircraft. It is a fine machine and runs very nicely with its two occupants at about 120kt burning about 20l/h, and comfortably travels 100 – 250nm trips.

MORE THAN A LAWYER

I was President of the Royal Aero Club of NSW and rescued it from bankruptcy in the late 1980s and again in 1992, after which I retired from the position. With my much-respected friend Allan Bligh OAM, I represented the Piper company in Australia as distributors for six years, during which time we sold the first Pipers in Australia for ten years. In our six years of stewardship, we sold 30 aircraft, including the newly-introduced Piper Archer III and the Piper Meridian. They were good times.

I have been a Member of the Aviation Law Association of Australia and New Zealand, (ALAANZ) since its incorporation and am also a Member of the Lawyer-Pilots Bar Association of the USA, and formerly the Oceanic Vice-President of that Organisation. I have been attending its meetings since 1982, which has given me continuous access to current US aviation piloting issues and enabled me to see the technology in operation.

Most of my flying has been as part of my professional work, which enables ready access to remote aviation clients. I formerly did lead a practice of 40 people in Sydney for quite some years. My principal flight time has been in the three successive Mooney 201s, which are fine machines for the requirements of solo long-distance rapid travel in Australia's regional and remote areas. They were used principally on the Australian East Coast, and particularly the "J" curve of the country which stretches along the East Coast from Cairns to Adelaide and is probably well-known to those with contact with Australia.

SHARING PROFESSIONAL KNOWLEDGE

I am now setting about to draw on the professional knowledge of our Members to provide a body of advice and professional observations to be published for the benefit of those who seek to operate aircraft safely in all of flight. My legal work includes a serious legal question to do with a crashed Fairchild Merlin III, and another to do with a Bell 206A-1, the civil version of the "Huey" of Vietnam War memory. These latter aircraft are pressed into service in Australia for bushfire fighting.

I enjoy my family life in Roseville, near Sydney where I live with my wife and some of my family. My other family lives generally in the Sydney region and I am proudly now the grandfather of my sixth grandchild. I am following on from Capt Rob Dicker, with whom I enjoyed an active and friendly relationship. The Honourable Company was very well served by Rob, and he has inspired me to develop the Australian Region in his footsteps. He has been a first-class Chairman indeed. □



Sun Rises for Airbus

By Freeman Rob Dicker

On Monday 2nd May Sydney skies were graced with the presence of Airbus' A350-1000 demonstrator aircraft sporting an additional Qantas logo on its fuselage. Its arrival was timed for an announcement by Qantas that it had ordered 12 of the type to support its "Project Sunrise" that will see it operate ultra-long-haul flights from Australia's major east coast airports direct to London and New York.

Additionally, Qantas has ordered 20 A321XLR aircraft and 20 A220-300 aircraft with an extra 94 purchase rights across the types to replace its existing fleet of Boeing 717 and 737 aircraft. Qantas CEO Allan Joyce stated: "The Board's decision to approve what is the largest aircraft order in Australian aviation is a clear vote of confidence in the future of the Qantas Group." He continued: "Our domestic market share is higher and the demand for direct international flights is even stronger than it was before Covid."

The other remarkable thing about the Qantas order is that it will see the airline transition from a once-all-Boeing fleet into a mostly Airbus one, with the 787 being the only type from the Everett manufacturer remaining in the fleet.

No doubt there will also be challenges in transitioning aircrew from Boeing's philosophy of operating aircraft to the Airbus philosophy. Qantas is still to reach agreement on the crewing of these planned ultra-long-haul flights that will see flight duty periods in the region of 19-20h.

Anecdotally, Australia's other domestic carriers are also seeing a surge in demand since all border restrictions were removed. □



FROM THE DESK OF THE DAA

By the DAA, PM Nick Goodwyn

Firstly, I would like to, once again, record thanks to John Turner for his nine years as Director of Aviation

Affairs and, more recently, to Paul Stone for his brief tenure before he unavoidably had to stand down earlier this year. Both are hard acts to follow in the interim. Having taken the role post the Air Pilots AGM and Installation meeting, and officially from 1st April, this first month as Director of Aviation Affairs (DAA) has been a process of hand-over, still ongoing, and reading in to an extensive archive and email library.

REFLECTING ON THE ROLE

It has been a useful exercise to begin by reflecting on the role of the DAA which is, in essence, to assist with the direction, technical support and advice given in supporting the Air Pilot's professional activities and in conveying any related policies to the media, government and other aviation bodies. To achieve this, the DAA provides a focal point for aviation technical information and consultation matters and aims to develop the 'public' reputation of the Company as a source of 'professional' advice/comment whilst also strengthening our standing in the aviation field so that its apolitical position and wealth of expertise are fully recognised.

Receiving direction from the GP&F and the Court and reporting to both in return, this is primarily achieved through assistance to the 'professional' work within the International Technical Forum, Coordination Panel and Technical Groups and liaising with the chairmen and professional committees in the Regions (North America, Hong Kong, Australia, New Zealand) with the aim of drawing regional and UK activities together.

Additionally, the role includes co-ordinating the Company's responsibilities within its Memorandum of Understanding with the online aviation safety site SKYbrary for the independent review and maintenance of on-line articles and attending conferences, briefings and other meetings as required and when appropriate. Importantly, the DAA updates the Master on technical and other aviation issues for possible discussion with international and regional organisations during the Master's tour.

I have always sensed that my predecessors as DAA have achieved the balance of this influencing role with great tact and diplomacy and have been consummately professional in subtle and persuasive advocacy. I hope to maintain that momentum.

SUPPORTING TECHNICAL GROUPS

A first task was supporting Warden Richie Piper, as Technical Group lead on Airspace, in a meeting with the Aviation Minister Robert Courts MP and representatives from the Department for Transport to deliver a brief on the Air Pilots TG Airspace Modernisation Strategy paper and then finalizing the CAA consultation response. Both illustrate to me examples of the outstanding contribution that members, through the ITF and technical working groups, are providing and highlight how we can influence as a non-partisan organisation across industry. I will report further on equally important work such as environment, UAS, Space, fatigue and training and standardisation as I learn and understand more of each respective work stream.

To that end, under the chairmanship of Liveryman Ronnie Trasler, we will have held an ITF meeting mid-May which is the opportunity to develop strategy for delivering outputs from the various tech groups as well as continuing to enhance the collaboration with the regions. My aim is to support the Chair and the ITF in coordinating that effort and to be the link to governance and direction from the GP&F and Court. A further key component in the role of the DAA is, I believe, to horizon-scan for future trends and challenges across the industry and to channel our expertise appropriately. Again, this is exemplified by the output of CAT Safety network and our enduring relationship and support to the content of SKYbrary.

WORKING WITH THE REGIONS

On a further practical level, I have been in contact recently with the incoming Hong Kong Chair, Liveryman Valerie Stait, on how we could deliver training to regional members to become flightcrew peer support volunteers as part of a HF wellbeing package. Blending technical and non-technical skills is a key element of safe operations which has been recognised by national regulatory authorities and CAT operators on the post-pandemic return to a new normal operational tempo. 'Fit to Operate' is a phrase that will be increasingly referenced in the coming months and a theme that I would like to promote as DAA.

And finally, I welcome the thoughts and ideas of the Air Pilots on matters that you think fall under the orbit of the DAA and that we as a Company should be focused towards. □

REPORT: THE YOUNG AIR PILOTS

By YAP Chairman, Freeman Dom Registe



With industry positivity a recurring theme at recent events such as Pilot Careers Live, and the Young Aviators Dinner making a triumphant return after a two-year hiatus, the Young Air Pilots year has certainly begun with renewed promise.

As ever, the company's presence at Pilot Careers Live, Heathrow, was a much-

welcomed voice of impartiality, and with Capt Steve Durrell at the helm, The Honourable Company of Air Pilots' stand was in prime position to deliver once again. An influx of enthusiastic prospective aviators was the constant feature of the day and, needless to say, it proved to be an incredibly rewarding one for all involved.

Fully aware as I am that I am preaching to the converted,

we as a Company have so much to offer future generations of aviators. With the support of willing volunteers, outreach events such as these reiterate this work first-hand, and with each additional person who becomes aware of what we do, undoubtedly, aviation becomes an even better place.

A successful day at Pilot Careers Live led straight into the Young Aviators Dinner in Central London that evening. The grand setting of the Royal Air Force Club never fails to disappoint, and after a two-year absence due to COVID, it was fantastic to see so many likeminded aviation enthusiasts together in one room again.

After a three-course dinner in the Sovereign's room, Captain David Morgan, Director of Flight Operations for easyJet, was the evening's guest speaker, captivating the room with the story of his humble beginnings and



Associates Kristoff Ahlner (L), Anne Soltow (centre) and Dom Registe (R) enjoy the Young Aviators Dinner



easyJet's Capt Dave Morgan gave an inspiring speech to the Young Aviators

introduction into aviation, and refreshing insight into commercial aviation as he sees it. It was a wonderful conclusion to an evening that had delivered on all fronts and, naturally, we all reconvened in the Churchill Bar afterwards for further 'serious' aviation discussions.

It has been fantastic seeing so many Company members already in this Air Pilots year. With many events still in the calendar and a number of upcoming career development days on the horizon, I am very much looking forward to meeting many more of you soon. □



Assistants Steve Durrell and Kat Hodge at the Dinner

THE 2022 COBHAM LECTURE

PER ARDUA AD ASTRA; HUMAN SPACEFLIGHT THE TRIUMPHS, CHALLENGES AND FUTURE PROFESSOR ANU OJHA OBE, DIRECTOR, UK NATIONAL SPACE ACADEMY



By The Editor

In a presentational *tour de force*, Prof Ojha kept the audience for the 2022 Cobham Lecture at the RAF Club spellbound for over an hour as he covered the past, present and future of human spaceflight and exploration.

To put spaceflight into context, the 27 astronauts who had orbited or walked on the Moon during the *Apollo* programme remain the only human beings ever to have

you – but that the human body was internally pressurised to counter this. At the top of Mount Everest water boiled at 70°C: 20km above Earth, the air pressure was 6% of that of sea level, and water boiled at 37°C. He introduced the concept of the “Armstrong Line” (nothing to do with astronaut Neil) above which a pressure suit was needed for survival. He tackled the misconception that exposure to very low pressure made the blood boil: “Blood doesn’t boil in your arteries, but dissolved gases come out,” he said. This was the same as the bends encountered in diving, and would be explosive if the depressurisation was sudden.

LOSS OF PRESSURE

The 1971 loss of the *Soyuz 11* crew who had successfully spent time on the first space station *Salyut 1* had been caused by accidental depressurisation of their capsule during re-entry, and they had not been wearing pressure suits. Prof Ojha also reported on the conjecture that the crew of the shuttle *Challenger* could possibly have survived had they been wearing pressure suits: the loss of the craft had been caused not by a thermodynamic explosion, and the crew module had remained intact in the incident. The later loss of the Shuttle *Columbia* had highlighted a state of mind in NASA teams which had been christened by Prof Diane Vaughan of Columbia University as “The Normalisation of Deviance.” This she had defined as: “The gradual process through which unacceptable practice or standards become acceptable. As the deviant behaviour is repeated without catastrophic results, it becomes the



China takes Space seriously

explored an alien world. Interestingly, where spaceflight had absorbed 5% of the US national budget during the *Apollo* programme, it now received just 0.5% - a situation which Prof Ojha later contrasted with the importance accorded to space exploration in China. There, he said, he had witnessed a two-hour fireworks display covering the whole of a city of seven million people – just to mark the opening of an international conference... on the subject...

SAFETY

The safety of spaceflight was a major theme of the lecture. Only 600 people had ever flown in space, and 19 of those had died doing it, Prof Ojha said, pointing out that extreme base jumping had a lower death rate than space exploration. He described the circumstances of all of the historic fatalities in spaceflight, starting with the first, the death in 1967 of Soviet cosmonaut Vladimir Komorov on the first manned *Soyuz* flight, who had died when the re-entry parachutes failed after a troubled flight.

The impact of loss of atmospheric pressure was a major theme, with Prof Ojha pointing out that at sea level there was the weight of 10t of atmosphere bearing down on

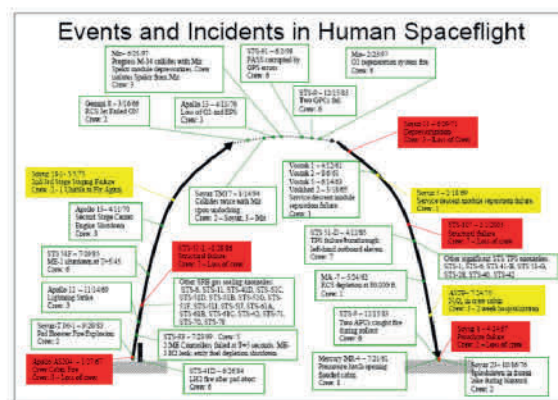


Figure 67. Events and incidents in human spaceflight with respect to flight phase. (Red indicates fatalities, yellow indicates injuries)

The phases of spaceflight during which accidents and fatalities have occurred

DECISION- MAKING AND THE NORMALIZATION OF DEVIANCE

- "Normalization of Deviance" = the acceptance of events that are not supposed to happen
- Early in the Space Shuttle Program foam loss was considered a dangerous problem
 - Baseline design requirements precluded shedding by the External Tank
- With each successful landing, NASA engineers and managers increasingly regarded foam-shedding as inevitable and an acceptable risk
- What was originally considered a serious threat came to be treated as a reportable problem that was within the known experience base and was believed to be understood
- With no engineering analysis, Shuttle managers used past successes as a justification for future flights

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The Normalisation of Deviance

social norm for the organisation."

In the *Columbia* accident, the root cause of the structural failure which had led to the Shuttle breaking up on re-entry had been foam insulation tiles from the external rocket boosters striking the underside of the vehicle. In the early days of the Shuttle programme that had been deemed to be unacceptable, but continued experience of tiles breaking off without causing serious harm had led to the phenomenon coming to be regarded as inevitable, and an acceptable risk.

All that said, spaceflight was not as dangerous as had been portrayed in movies like *Gravity*. In that picture, he said: "They took all the things that could happen in spaceflight and crammed them into one 90min film."

THE FUTURE

The future of spaceflight and space exploration was another topic covered. NASA was working on its *Artemis* project which, when launched by the-US President Trump, aimed to return people to the Moon by 2024. That would not now happen until 2025. *Artemis* would deliver the first woman and the first person of colour to visit the Moon, and they were among 18 astronauts training for the programme. *Artemis*' ultimate goal was to deliver humans to Mars, and Prof Ojha posed the question "Why?"

Robots were already there conducting exploration and experiments – but, he pointed out, Harrison "Jack" Schmitt, the only geologist to go to the Moon, covered more ground in three days than the Rover had done on Mars in six years.

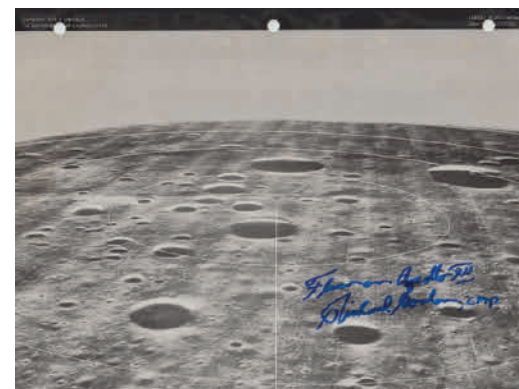
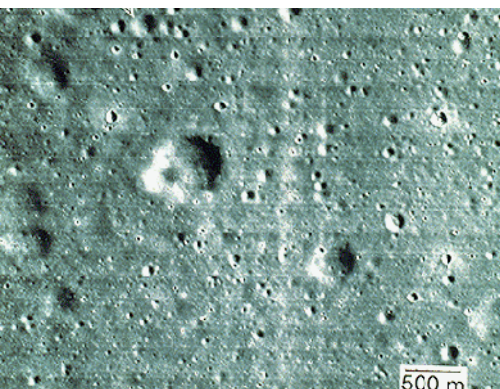
There were problems with having humans on Mars, however, and he opined that Space-X entrepreneur Elon Musk's vision of "Men on Mars" was unsustainable. "If you have humans on Mars, they will never be able to visit Earth," he said, pointing out that gravity on Mars was only one-third of that on Earth, and that astronauts acclimatised to living there would not be able to adapt to Earth's higher gravity. (He had earlier pointed out that bones lose 1% of their density per month spent in zero gravity, as the calcium leaches out.) The solution, in Prof Ojha's view, was the use of "trans-humans" – machines using human minds.

It was not that Space-X had not made a major contribution: its re-usable launch boosters, capable of returning to Earth autonomously, had contributed to the cost of launching payloads into orbit reducing by a factor of ten [the cost currently being quoted of \$1.1 million to launch a 200kg payload to low-Earth orbit].

SELECTING ASTRONAUTS

Prof Ojha spent some time addressing the selection of astronauts for future missions. Originally, he said, astronauts had all been pilots or (in the case of some Russians) sky-divers. Now the selection pool was much more diverse, with applicants with backgrounds in extreme sports such as mountaineering and scuba diving being accepted, with European Space Agency's latest intake being 39% female and even disabled 'parastronauts' now in the mix, where in the past there had been no people with disabilities accepted.

The success rate of applicants was still very small: in the 2008 selection of astronauts by ESA there were 8,143 valid applications, all of them aged between 27 and 37, and of whom just 17% were female. Of those applicants,



Photos of proposed landing zone, taken from earlier missions, were used to make the landing cards for Apollo 12 (arrows show direction of view)

918 made it through to the cognitive test stage, and only 192 of those to the psychological tests. Fewer than 25% of those (45) were taken to the medical tests: 22 of those were accepted for the professional interview, of whom just 10 had a final interview with ESA's Director General. In the end, just six were accepted as astronauts.

In ESA's latest round of applications, a total of 23,307 initial applications had been whittled down to just 1,362 going through to the Stage 2 initial tests: there had been 287 applications from potential parastronauts, of whom just 29 had made it through to Stage 2. Psychometric testing was a vital part of selection, concentrating on applicants' abilities to work in a team, and the week-long medical examination for the final few was far more rigorous than an Air Force medical. The top priority in all this was: "Keep yourself healthy, and keep the station healthy."

Living on the International Space Station (ISS) was a demanding one, he said. British astronaut Tim Peake

had worked from 8am to 6pm Monday to Friday, and Saturday mornings, and during his time on the Station had conducted 210 different experiments. The 500t ISS had been continuously occupied since the year 2000, and in that time astronauts on board had conducted science for over 3,000 groups from more than 100 different countries.

HIGH FLIGHT

Towards the end of his lecture, Prof Ojha gave an example of how far the technology of spaceflight had advanced when he displayed a copy of a landing card which had been prepared for the Apollo 12 astronauts to help them navigate to their designated landing site. It had been created by simply piecing together a series of photographs taken on earlier missions. His final exhibit was a copy of John Gillespie Magee's World War One poem *High Flight* which had been to the ISS and which he presented to the Company. In thanking Prof Ojha for his lecture, IPM Nick Goodwyn stated: "Space is Cool – and you are the Master of Cool!" □



This copy of High Flight which has been to the ISS, was presented to The Company by Prof Ojha (Pictures from Prof Ojha's lecture slides)



FLYING THE VINTAGE GLIDERS: PART 1, THE SLINGSBY GRASSHOPPER AND SEDBURGH

By Liveryman Peter Turner

Following on from his profile of 621 Historic Flight in the last issue of *Air Pilot*, Peter Turner samples some of the vintage gliders operated by the Flight.

On a cold drizzly December day at the end of 2008, I found myself strapped on, as opposed to in, what can only be described as a broomstick with wings. What on earth had I let myself in for this time? You know how it is. In a moment of madness (usually over a glass of scotch), you get what seems like a brilliant idea and before you know it you've picked up the phone, made an irreversible call and the idea is now committed to reality. In this case it was to fly an array of vintage Air Cadet gliders based with 621 Volunteer Gliding Squadron (VGS) at Hullavington.

No going back now. Reputation and all that! So on the way home from a business meeting, I popped in to discuss the venture with the Historic Flight's boss, Flt Lt Adam Clarke and found myself obliged to have a pre-test taster in the Grasshopper. Suitably briefed by Adam: "Pete, it all happens at 30kt and it comes down like a, well, brick". I donned my flying suit (grow bag) over my business suit, put on a fleece for extra warmth and donned a pair of goggles to keep the wind and drizzle out my eyes.

With checks complete I gave the 'all out' command and the tow-car driver, with absolutely no finesse, floored it. With a brief ground run along the wet grass, I was airborne and climbing towards the overcast at a quite reasonable rate. Between my legs there was nothing but a piece of 4in x 2in (10x5cm) wood and a rapidly dwindling airfield. Now that is novel! All too soon I was scud-running under the 500ft cloud base with my goggles semi-opaque with drizzle - nice... As we ran out of airfield I released, and at 30kt made a 180° turn and pointed the contraption back down the airfield. With the very light wind, landing in any direction was OK. That was a bonus, really, as I certainly didn't have much height to manoeuvre.

With its 1:7 glide angle, there was no way I was going to make it back to the launch point and after a brief flare touched down 200yd short. It was all over almost as quickly as it takes to describe it! And do you know what? I loved it. Silly grin time and not like anything I've ever flown before. What a hoot!

To fly the whole fleet comprising a Slingsby T38 Grasshopper TX1, Slingsby T31B Cadet TX3, Slingsby

T21B Sedburgh TX1 and a Slingsby T30B Prefect TX1, we needed good, and preferably warm, weather so we agreed to wait until spring at least. Of the other three types I had flown a Sedburgh a year or so back, had loads of time instructing on it and the Mk 3 in the mid-'60s and some time on the Prefect in the same period. So with some experience on all four types I was really looking forward to the big day. It was a brilliant idea after all.

GRASSHOPPER WZ828

The Grasshopper was a British development of the German Schulgleiter 38 (SG-38). In 1930 plans of the SG-38 were used for the construction of the type in the UK. The manufacturer, R F Dagnall, founder of the RFD Company, made small modifications to the type and called it the Dagling. The prototype was flown by the London



*The Grasshopper – "A broomstick with wings"
(pictures: Peter R March)*

Gliding Club and put into service with that group. With RFD heavily engaged in government work the type was briefly manufactured by BAC until 1933 when Fred Slingsby took it over. Later in its life it sprouted longer wings, became the Grasshopper TX1 and was distributed around the RAF sections of the Combined Cadet Force (CCF). WZ828 was issued to St Peter's School, Exeter until its retirement. In all around 85 were manufactured in the UK.

The method of training young cadets in the Grasshopper was to tow them behind a vehicle. Initially the glider was kept below flying speed and firmly on the ground so the cadet could get the feel of the ailerons and rudder. These were called 'ground slides'. Eventually speed was increased until a low hop was achieved. Once a 30sec flight was achieved the student qualified for the 'A' Certificate. The launch height was then progressively increased until a

full launch and circuit from about 800ft could be flown, qualifying the pilot for the 'B' certificate which required a flight of 60sec duration. The whole thing was very fraught and, needless to say, there were plenty of accidents, some fatal. Not surprisingly, many would-be pilots were put off for life by such an experience. An improvement in this technique, which reduced the accident rate, came along with the introduction of a tripod ('Pendelbock') on which the glider could be mounted. It was pointed into wind so the student could 'fly' it and get used to the feel of the controls before being let loose.

MINIMAL PRE-FLIGHT CHECKS

Flying the Grasshopper is huge fun. For 'safety' reasons 828 now boasts an airspeed indicator, which is, I suppose, quite useful. Pre-flight checks are, well, minimal. Running through the check list goes something like this. Controls – free and operating in the correct sense; Ballast – in place; Straps – REALLY, REALLY tight; Instruments – yes we still have one, it reads zero and the glass and needle are intact; Flaps – no we don't have them; Trim – no we don't have that either; Eventualities – well if we get a launch failure I'll lower the nose to the correct attitude to maintain 30kt, point it to a clear area and land; Canopy – no don't have one of those; Air Brakes – don't have those and sure as hell don't need them!

Auto-tow and winch launch techniques are similar in any glider. Let it fly off and gently rotate into the initial climb and when, in the case of the Grasshopper, the magic 30kt appears, rotate into the full climb. The difference with the Grasshopper is that to achieve a reasonable climb the stick has to be hauled right back to the stop, this being due to the lack of a centre-of-gravity hook, as it is fitted only with a nose hook.

The climb is quite novel. Looking at the cable bowing away between your legs down to the winch or tow-car is a whole new experience. Eventually, usually at about 6-700ft, the nose starts nodding with the downward pull of the cable and it's time to release. Oh yes, there isn't a knob - you just yank the cable!

The nose is quickly lowered to maintain 30kt and a turn downwind towards 'low key' initiated immediately. The rule for circuit planning is simple: Don't go outside the airfield boundary. Landing is like any other glider except you can count the daisies as they go by between your legs. As we only fly the Grasshopper in light winds a landing in any direction is possible and quite common. The calibre of pilots flying 828 is such that spot landings by the launch point are more common than not. Control harmonisation? What can I say? Heavy ailerons, a light elevator and an ineffective rudder covers it really. Cockpit visibility is, of course, stunning.

AEROTOW EXPERIMENT

During our vintage gliding week, we decided to aerotow the 'beastie'. I was to fly the Mendip Gliding Club's Rotax-Falke tug and Adam the Grasshopper. A careful briefing was had and off we went. Bearing in mind the lack of a wheel the acceleration was better than expected, and in



The Falke aerotowing the Grasshopper – the experiment worked well, with crisper ailerons and more effective rudder during the tow

about 400m we were airborne and climbing at 50kt. The rate of climb was about 400fpm and the whole thing a non-event. At 2,000ft I waved Adam off and raced him to the ground. As I shut down, he was landing with a huge grin on his face. So, what was it like from the other end of the rope? Over to Adam.

"As I sat waiting for the tow rope to go tight, I was very aware of my raised heart rate. It is a long time since I've felt that sensation in a glider! As the tug accelerated, with the wingtip holder sprinting along trying to keep the wings level, it was clear that I had good aileron control straight away. I had made a mental note of a point where I would release if we were struggling to get airborne but, in the event, with the elevator central it quickly flew itself off and I held at a couple of feet until the tug got airborne.

With the increased speed it was immediately apparent that I would have no problem keeping station. The ailerons felt crisper, and the extra speed seemed to overcome the ineffective rudder. As we slowly gained height, I selected various fields in the event that the tug had a problem or the rope broke. Once the airfield was in back in range I began to relax.

After release the view from 2,000ft, sat on a plank of wood, was incredible. Thinking I'd never been high enough before I decided to try a stall. At 25kt my feet gently nodded downwards (no nose you understand!) and as soon as I relaxed the back pressure on the stick the glider was flying again. Another non-event! After an all too brief flight I landed back and to this day still have the remnants of that grin on my face!" You are either going to love the Grasshopper or hate it. It is not for the faint hearted but those who fly it love it to bits. A blast – literally!

SEDBERGH – WB922

The successor to the Grasshopper was the Kirby Cadet, yet another single-seater, albeit with a 'normal' open cockpit. Unsurprisingly this did not change the unsatisfactory accident rate, although no doubt it did keep the Slingsby factory very busy repairing and replacing damaged or written-off kit.



The Sedbergh – a robust and stable “barge”

The solution eventually came in 1944 when the Slingsby T21 (Sedbergh) prototype was flown. It was a two-seat side-by-side trainer; basically an enlarged Grunau Baby. However, it was not until 1947 that the type, now the T21B, was adopted by the Air Training Corps (ATC) as the Sedbergh TX Mk I. The changeover from solo training had begun, and the accident rate plummeted. A staggering 95 of the type were delivered to the ATC alone, with a further 131 being snapped up by gliding clubs.

‘THE BARGE’

The Sedburgh is an enormous beastie, hence its nickname – ‘The Barge’. If you’ve ever rigged or de-rigged one you would know! It is a robust and stable trainer: the controls are reasonably harmonised and it behaves like a large Grunau. Very sedate and pleasant to fly, it will thermal or ridge-soar in the weakest lift, is great fun and, with its side-by-side seating, very sociable. Despite the open cockpit conversation is no problem.

Although the Sedbergh does not have elevator trim, this is no issue under normal operations due to the light forces. However, aerotows are a different story. At 50+kt the elevator forces become very high and on long cross-country tows it is advisable to have two pilots to share the workload. Above 60kt the ailerons become sluggish – altogether a bit of a challenge! The other criticism is of the cockpit visibility. With the leading edge of the wing overhanging the cockpit, the visibility in turns is not too good, and care has to be taken. The circuit is flown at 35kt and approaches at 40kt. Any speed higher than this renders the inefficient spoilers rather ineffective.

POPULAR ‘BEAT-UPS’

Back in the Weston-super-Mare days of 621 Gliding School (as it was then) we used to have great fun in the Sedbergh. Aerobatics were popular, as were beat-ups! One popular and very talented instructor, the late Sqn Ldr John Stride, excelled and to sit in on one of his hangar flights was a treat. From the top of the launch we would loop and then stall turn to a position downwind of our hangar. From there, depending on the wind direction, we either flew down the ‘V’ of Westland Helicopters’ factory roof with the wings just clearing the ridges on either side or, from the opposite end, we flew down a small stream, again with the wings just clearing the raised banks and the fuselage a couple of feet off the water. From there it was a matter of dropping down off the hanger roof or pulling up and side-slipping away from the stream. In each case it concluded with a spot landing outside the hangar. It was absolutely brilliant, and great fun. You couldn’t do that sort of thing today, though, more’s the pity!

And today? Everyone on the flight absolutely loves the old girl. Says it all really! □

SPECIFICATIONS	
Grasshopper	Sedburgh
Wingspan: 39ft 0in (11.9m)	Wingspan: 54 ft 0 in (16.5m)
Length: 21 ft 8in (6.6m)	Length: 26 ft 8 in (8.1m)
Maximum Weight: 549lb (249kg)	Maximum Weight: 1050 lb (476kg)
Empty Weight: 286lb (130kg)	Empty Weight: 599 lb (272kg)
Stall Speed: 26kt (48km/h)	Maximum Speed: 92 kt (170km/h)
Maximum Speed: 70kt (130km/h)	Stall Speed: 31 kt (57km/h)
Best Glide: 1:7 at 29kt (54km/h)	Best Glide: 1:21 at 37 kt (68km/h)



The complete 621 HF fleet at rest (Al Stacey)

Impressions of the other gliders in the fleet will follow in future issues. The Editor welcomes offers from other Air Pilots of their experiences and reminiscences of flying unusual, rare or ancient aircraft.



(All pictures Crown Copyright)



FALKLANDS SURVIVOR

**Boeing CH-47 ZA718
Bravo November achieved
fame as the only heavy-
lift helicopter to serve
with British forces in the
Falklands war of 1982.**

Forty years later it has been retired to the RAF Museum at Cosford: Assistant Curator Andrew Dennis tells its story.

The US Army began operating the Boeing CH-47 Chinook in 1962 and it soon saw active service in Vietnam where its exceptional load carrying qualities were quickly recognised. For the RAF, the Chinook was the obvious replacement for the problematic Bristol Belvedere, and in 1967 an order was placed for 15 aircraft. However, the order was cancelled after cuts in defence expenditure. It would be another 11 years before the RAF was able to purchase the Chinook, with the Ministry of Defence announcing the purchase of 33 in 1978.

The first aircraft were received by the Chinook Flight of No 240 Operational Conversion Unit at RAF Odiham in December 1980. The following August, No 18 Squadron was reformed to become the first of three RAF squadrons to be equipped with the new helicopter.

No 18 Squadron's Chinooks were soon called into action, when in April 1982 the Falkland Islands were invaded and occupied by Argentinian forces. Against the background of diplomatic efforts to resolve the situation, the British Government swiftly decided to send an all-arms force to attempt the recapture of the Falkland Islands over 8,000 miles (13,000km) away. No 18 Squadron was soon involved, flying stores and supplies to ships of the task force being assembled at Devonport: this included flying a 5t propeller bearing to HMS *Invincible* at sea in the English Channel, the ship having very publicly departed Portsmouth the day before, thus avoiding an embarrassing return to port for repair.

It was evident that helicopters were to play an important part in any operation to recapture the Falklands, for



ship-to-ship and ship-to-shore, lift of freight and personnel, for direct support of troops ashore and for anti-submarine warfare. The Royal Navy was able to provide much of the helicopter resources to meet these needs but lacked a heavy-lift helicopter and the RAF's Chinooks were the only aircraft that could fulfil this capability gap.

TRANSPORT OPTIONS

Six aircraft were rapidly prepared to join the Task Force, receiving modifications which improved their survivability and operational capabilities. This included the installation of chaff dispensers, infra-red flare decoy dispensers, radar warning receivers and fittings for a General Purpose Machine Gun (GPMG). Options of how many to send and how to get them to the South Atlantic were explored. One possibility was that the aircraft would fly down via 'ship-hopping' to avoid difficult areas and countries. This was ultimately dismissed as it would have tied up too many resources. Eventually it was decided that due to space constraints only five aircraft would be despatched onboard the container ship *MV Atlantic Conveyor*. The *Atlantic Conveyor* would disembark one Chinook at Ascension Island, an important staging post for operations in the South Atlantic, and the remaining four aircraft would head south to participate in operations to recapture the Falklands.

The *Atlantic Conveyor* sailed from Portsmouth on 25 April, arriving at Ascension on 5 May where, within 90 minutes of disembarkation, Chinook ZA707 was on task conducting vertical resupply sorties. ZA707 remained at Ascension for the remainder of the conflict, mostly on vertical replenishment operations but also on other tasks, such as carrying early-warning radar equipment to the top of Green Mountain, the highest point on the island, which "...could only have been achieved with the Chinook", according to those serving there at the time. ZA707 flew over 100h during the conflict, and on one day alone transported over 350t of stores to ships of the Task Force. Eight British Aerospace Sea Harriers and six Harrier GR3s were embarked on the *Atlantic Conveyor* at Ascension, and she sailed on 7th May to join the ships of the Task Force in the South Atlantic. On 18 May, as *Atlantic Conveyor* closed



with the Task Force, the Sea Harriers and Harriers were prepared for flight, and over a few days all had departed for HMS *Invincible* and HMS *Hermes*. With more space now available, work began preparing the helicopters for flight. Removing them from their protective cocoons

and refitting rotor blades proved to be a difficult task within the confines of the ship. No specialist lifting equipment was available and a forklift truck was impressed to assist.

As the Chinooks were being made ready, British forces landed ashore at San Carlos on the west coast of East Falkland on 21st May.

With the beachhead established, the need for helicopter logistic support was great. Helicopters would be crucial to the success of the ground campaign. With no proper landing facilities available to the ships, all stores were brought ashore by either landing ships or helicopters. Once forces were ashore the military plans were heavily reliant on helicopters not only in supplying troops in forward areas but also moving them across the island, as no roads existed other than farm tracks. The Chinook's lifting ability was almost five times that of the next biggest helicopter employed, the Westland Sea King, and it had been envisaged that Chinooks would ferry troops across the difficult terrain, thereby keeping them fresh for battle and bring them into action quickly.

ATTACK ON ATLANTIC CONVEYOR

Work to fit the blades on ZA718 ('BN') was completed in the afternoon of 25th May, and after several ground



Atlantic Conveyor's loss left ZA718 alone
(Imperial War Museum)

runs of her engines she departed to conduct an air test. Shortly after it took off, the carrier group, which included the two aircraft carriers HMS *Hermes* and HMS *Invincible* and the *Atlantic Conveyor*, found itself under air attack. Two Argentine Dassault Super Étendards carrying Exocet missiles approached the task force at low level with the carriers as their targets. The aircraft were picked up on the radars of the carrier group and the vessels conducted defensive manoeuvres and fired off chaff to confuse the incoming missiles.

However, *Atlantic Conveyor* had not been fitted with chaff dispensers and one of the missiles locked onto the ship, which was still in the process of turning to present a smaller radar profile when she was hit by the missile. A fire that could not be contained broke out inside the vessel and it had to be abandoned with the loss of 12 lives. The loss of the *Atlantic Conveyor* was a severe blow.

the aircraft pushed overboard if it was not removed because it would hamper the carrier's ability to mount its own air operations. After an overnight stay the aircraft departed for the bridgehead at San Carlos.

With only one operational aircraft, No. 18 Squadron quickly had to reorganise itself. Seventy-seven members of the Squadron had arrived in the South Atlantic onboard the *Atlantic Conveyor* and the MV *Norland*. Those who had been onboard the *Atlantic Conveyor* were repatriated to the UK and a small detachment of two crews (two pilots and two crewmen per crew) along with 27 groundcrew who had sailed on the *Norland* were nominated to remain to fly and support the aircraft while four RAF Regiment personnel would guard the aircraft. However, all the spares, manuals, servicing tools and equipment had been lost, and without this equipment it was not known how long the aircraft would remain serviceable.



Not only were tentage for 10,000 troops, a mile of steel runway, vehicles, aircraft and helicopter spares lost, but also six Royal Navy Westland Wessex helicopters and - perhaps most importantly - three Chinooks.

In his history of the Falklands Conflict *The Falklands War 1982*, Martin Middlebrook wrote: "The land campaign would be severely handicapped by the loss of their load carrying capacity". The loss of the Chinooks meant that the planned swift movement of troops across the Falklands could no longer take place. The Royal Marines and Paratroopers would now have to largely march or 'yomp' or 'tab' their way across the Falklands.

"PUSH IT OVERBOARD"

Unable to return to *Atlantic Conveyor*, ZA718 landed on the crowded deck of HMS *Hermes*, where her presence was not welcome. The ship's captain threatened to have

INTO SERVICE

The detachment of groundcrew landed on East Falkland on 26th May and serviced ZA718 after her arrival from HMS *Hermes*. They returned to HMS *Fearless* for the night to collect their kit and scrounge from the Royal Navy tools and consumables that could be used to support ZA718 on operations. Early next morning they returned to Port San Carlos, to prepare the aircraft for flight. In between air raids a site was located from which to operate ZA718, Chief Technician (Ch Tech) Tom Kinsella, who commanded the ground crew detachment wrote that: "Once a site had been decided upon it was then a question of having to hump all our personal belongings from one tuft to the next across the valley and part way uphill in order to avoid the boggy ground. BN had only two 7x9 [7ft x 9ft] tents on it. A further 7x9 tent, 9x9 and

12x12 tent were borrowed from the navy. There were a number of bits missing from the latter two tents, which made it very awkward to tie them down. It didn't take long before the 12x12 was blown uphill."

With many air raids and then post-flight servicing of ZA718 to be done, it was night before Tom Kinsella could look to prepare his bivouac. Instead, he slept in the open: "I assembled my camp bed, arctic roll inside my sleeping bag, waterproof cover and went to bed fully clothed and covering my boots with polyethene bags. I felt quite exhausted and, even so, I got little sleep because of a bombardment away on the other side of San Carlos Water... Halfway through the night it rained, and all I did was cover my head with the groundsheet sufficiently to prevent the rain from getting inside my bag."

The groundcrew spent the first three days sleeping in the open in freezing conditions before on 30th May they moved to Port San Carlos on and into the luxury of some farm outbuildings and navy tents. It was from here that the Squadron would operate for the remainder of the campaign, continuing to keep the aircraft airworthy despite the lack of equipment and tools. Ch Tech Kinsella, having lost the servicing paperwork for the aircraft, used an exercise book that he managed to source as a temporary servicing Form 700. This document, now in the RAF Museum's collection, records how after every day's flying, Tom logged the defects that would likely have grounded the aircraft under normal operation circumstances, servicing conducted and repairs made, ending each day with the note: "Aircraft 'S'(afe) to fly until receipt of spares".

ZA718 was put to work immediately as Andy Lawless, one of ZA718's four pilots recalled in a 2021 interview: "...the first couple of days were taking stores from the ships to shore, literally underslung load after underslung load. Yes, there were a few landing craft doing this type of stuff, but we were taking the more high-priority weapons and what-have-you, the personal kit, not just straight onto the beachhead but to designated points where individual units were. So, we could give them all the equipment, so they could be ready to breakout of the beachhead."

This also included carrying Rapier surface-to-air missile batteries to positions around Falkland Sound to bolster the air defences of the fleet which were under continued Argentinian air attack - so much so, that the area became known as Bomb Alley.

PRESSURE FOR ACTION

The troops having been ashore for almost a week with no breakout from the beachhead, there was political pressure for action. An operation was devised to attack the Argentinian positions around the settlements of



Darwin and Goose Green. ZA718, along with Royal Navy Sea Kings, began moving supplies for the assault by 2nd Battalion, The Parachute Regiment (2 Para). ZA718 carried 105mm guns, artillery shells, mortars and equipment forward in preparation for the attack. Despite stiff resistance, 2 Para was successful, and in the aftermath of the battle ZA718 was busy carrying the wounded to the field hospital which had been established in a disused refrigeration plant at Ajax Bay.

Two days after the Goose Green battle, ZA718 was involved in an audacious airlift to capture the prominent feature of Mount Kent, which dominated the routes of advance from San Carlos but also overlooked the Argentinian defensive positions around Stanley, the capital of the Falklands. The SAS had reconnoitred the site and reported that it was thinly held. Brigadier Julian Thompson, commander of 3 Commando Brigade, decided an attempt should be made to capture the peak. On the night of 30th/31st May, three Sea Kings carrying elements of 42 Command, and ZA718 with three 105mm guns (two carried internally and one underslung) and 22 gunners, were to fly 40 miles to Mount Kent and capture the important feature.

Just prior to the operation Sqn Ldr Langworthy had raised an issue with Tom Kinsella about an oil leak in the aft gear box of ZA718. With no spares with which to repair it, Kinsella provided the crew with two gallons (9l) of oil with the instructions that if the situation became serious, they should put down and top up. With that, he signed the aircraft as fit to fly, as, he said, he was aware of the importance of the operation. Upon reflection he said: "I should have never let it go, but I am convinced I would have been overridden".

ZA718 took off into the night sky, the pilots Sqn Ldr Dick Langworthy and Flt Lt Andy Lawless wearing passive night

vision goggles. The weather conditions were poor with frequent snow showers and intelligence vague. The crew had been informed that the landing area was flat and secure, but as the aircraft approached the designated site, it was found that the site was not level, but a rocky hillside. What had been expected to be a 5-minute job turned out to be a 40-minute task where each gun had to be manoeuvred into position by ZA718. All the while the site was subject to incoming fire.

ALMOST LOST

On the return flight in a severe snow shower, the aircraft suffered an altimeter failure and hit a body of water. Luckily ZA718 was in a slightly flared attitude, but the rotors wound down as the engines ingested water. Believing the aircraft had crashed, Andy Lawless prepared to evacuate by jettisoning his door. Miraculously, the engines recovered, and the aircraft flew off the water. Crewman Tom Jones suffered concussion from the incident and tried to exit the aircraft at altitude and had to be restrained by his fellow crewman Gary Rogan.

The door which had been jettisoned contained maps and vital Identification Friend or Foe (IFF) codes to be used on the return to San Carlos water. Luckily Andy Lawless had memorised the route back. However, without the IFF codes the Rapier anti-aircraft missile batteries around San Carlos might have mistaken ZA718 as an Argentinian Chinook. Andy Lawless later recalled: "If you were not squawking the correct codes, you'd get a Rapier up your jet pipe, which is not a good idea." The crew needed to make the Rapier batteries aware of their approach without appearing hostile, using what are termed 'lame duck' procedures, which the pilots did by turning the aircraft's lights on and off to show that they were friendly: a Sea King came and inspected ZA718 and escorted it back to San Carlos without further mishap.

The following day a thorough inspection was made of the aircraft to look for damage. Apart from some slight damage to the ramp and aerials the aircraft was still deemed serviceable and was ready to return to operations. The cause of the oil leak was identified, and a temporary repair made which stopped the leak



Bravo November in the new Falklands War display at RAF Museum Midlands (RAF Museum)

for the remainder of the campaign. The cockpit door, however, could not be replaced and for the rest of the campaign ZA718 flew without the left-hand cockpit door; a situation which Andy Lawless described as "...bloody cold". Despite the discomfort to the aircrew, two days later the missing door would save the aircraft from near disaster.

On 2nd May, ZA718 was being used by the recently arrived 5 Brigade to help move troops and supplies around San Carlos and Goose Green where one of its battalions was located. In a bold move Maj Chris Keeble, the commanding officer of 2 Para, suggested to the Commanding Officer of 5 Brigade that a small group fly to Swan Inlet House and use the telephone there to establish if the settlements of Fitzroy and Bluff Cove were occupied. If they were found to be unoccupied an ad-hoc operation was to be undertaken to fly in elements of 2 Para and seize the settlements.

A MAD DASH

Eager to get 5 Brigade into action, Wilson approved of the plan without consulting his superiors. The group arrived at a deserted Swan Inlet House and called Fitzroy and Bluff Cove, and were told by the settlement's manager that no Argentinians were present. Having confirmed the area was not occupied, there followed a mad dash to airlift 2 Para to the area, as recalled by Chris Keeble: "Brigadier Wilson wanted to capture two settlements; one was called Fitzroy and one was called Bluff Cove. So, I said: 'What we'll do is a *coup de main* operation. We'll fly two assault forces in, one to Bluff Cove, one to Fitzroy.' We only had maybe 120 soldiers to secure these two settlements, so we had to do it fast, at night, and we needed to rely on the only platform that was available to do that.

"And that was the one surviving Chinook, Bravo November (ZA718) ...as we were climbing in, I needed 60 people on the Chinook and the air loadmaster said: "I'm sorry, but it's only equipped," I think he said, "for 30". So, one of my Sergeant Majors said: "Well, you can fxxxing get off for starters." Of course, that was a bit rude, but he made the point that we needed 60 people on the Chinook. And we got 60 heavily loaded paratroopers on the Chinook with the ramp down and flew at low level towards Fitzroy.

"The *coup de main* was unopposed...The threat probably was the weather. [It] was appalling, and you had to be extremely skilful to fly in thick rain and to fly at night with night goggles – it requires an immense amount of skill. So, it was speed. It was the skill of the pilots to navigate at very low level across an unknown terrain, because nobody, I think, had flown that route before, and it enabled us to get in speedily and with surprise."

In fact, as Tom Jones, one of the crewmen remembered, ZA718 flew two lifts, one of 81 and one of 71. "A remarkable achievement, since the standard capacity was 33, exceptionally 44," the official RAF narrative acknowledged. However, the inbound flight almost became a tragedy but for the missing cockpit door, as Jones recounted: "...there were artillery guys attached to the marines, on the high ground to our left. They were about to open fire because they thought it (ZA718) was an Argentinian Chinook, and then one astute corporal said: 'Wait a minute, hang on, no, it's ours, it hasn't got a door in the left-hand side of the cockpit.' So what happened disastrously nearly a day before, we suddenly found out had saved our lives..."

The *coup de main* had rapidly progressed the southern advance; however, the move was not without risk and 2 Para was now isolated without any supporting arms, few stores and little equipment. The move had disrupted plans for the assault on Stanley and there was now an urgent need to bring the remainder of 5 Brigade to Fitzroy and Bluff Cove, with all its equipment and stores, to reinforce 2 Para. One officer described the move in his diary as "... grossly irresponsible".

The question was how to move the rest of 5 Brigade quickly to the Fitzroy and Bluff Cove. The loss of helicopters on *Atlantic Conveyor* meant there were simply not enough helicopters available to support 3 Brigade and move 5 Brigade. The idea of marching the two 5 Brigade battalions from San Carlos was explored and discounted. The only other viable alternative was a risky move by sea at night. Plans were rapidly devised and the first elements of 5 Brigade sailed on the night of 6th June, landing early the next day, the vessels returning to collect the remainder of the brigade. Delays in loading and poor communications meant that the ships departed late and Landing Ship Logistics RFA *Sir Galahad* arrived during the morning of 8th June.

A DISASTROUS ATTACK

The poor weather of the previous day which had helped protect *Sir Galahad's* sister ship RAF *Sir Tristram* had now cleared, and the two ships were visible to the Argentinians. Unloading continued slowly and Rapier air defence batteries had not been properly established ashore. When shortly after midday the ships came under air attack, both were hit. *Sir Tristram* was largely empty by now but not so *Sir Galahad*, on which 48 soldiers and crew were killed, many injured and suffering burns from the fire that subsequently took hold. The casualties were brought ashore by lifeboat or winched to safety by Sea King helicopters of the Royal Navy. ZA718 was tasked with ferrying some of the casualties to Ajax Bay as Tom Jones

recalled: "We went in and picked up a lot of the casualties from there - amputees, and badly burned - and flew them to Ajax Bay. And then once they had done their initial first aid treatment with the fantastic medical team they had set up there, we went in to pick them up and ferry them to *Uganda*, a hospital ship."

ZA718 continued to fly support helicopter operations for the remainder of the war, moving troops, supplies and ammunition in support of the ground forces as they battled toward Stanley, including carrying and replacing the Murrell Bridge near Mount Kent to enable vehicles to continue to Stanley. Tom Kinsella remembered that the morale was very high despite all the problems encountered in keeping ZA718 operational: "We didn't want to be reinforced, we wanted to see this thing through ourselves". That, they just managed to do: two hours after the Argentinian surrender on 14th June a second Chinook arrived on the Falklands. Ironically, following the surrender, No 18 Squadron groundcrew removed the door from a captured Argentinian Chinook and fitted it to ZA718, which would fly for many years with its 'borrowed' door.

During the 18 days ashore, ZA718 had flown on every day bar one, carried 2,150 troops, 95 casualties, 550 prisoners of war and 550t of stores. In a footnote in the RAF's official history, it was noted that the tonnage was more than the "...total carried by an entire squadron of Sea Kings for the same period". This was an amazing achievement considering the scarcity of supplies, equipment, and manuals available to the groundcrew. For his efforts on Mount Kent, Sqn Ldr Dick Langworthy was awarded the Distinguished Flying Cross (DFC).

This was an eventful opening chapter in the long career of ZA718, which would see a further three pilots awarded the DFC while flying the aircraft in other theatres including Afghanistan. It is now an important and most welcome addition to the Museum's collection, on display in time to mark the 40th anniversary of the end of the Falklands war. □



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INTO THE OVERSHOOT

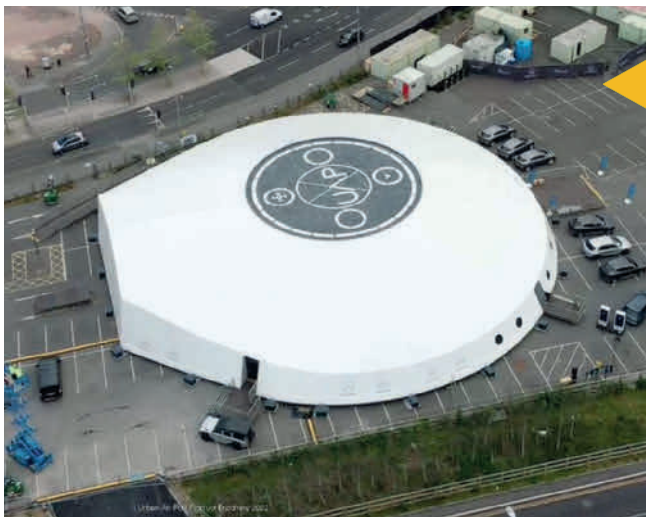
A round-up of less-formal items which have caught the Editor's eye

SPITFIRE MEMORIAL SET TO SOAR

A project to erect a National Spitfire Memorial in memory of the people of more than 30 nations who designed, built, flew and maintained the iconic fighter. Made of stainless steel and soaring to a height of 40m, the Memorial will stand on the foreshore in Southampton, close to both the Supermarine factory at Woolston and Eastleigh Airfield from where the prototype of the iconic fighter flew in 1936. The project, managed by Assistant Steve Dean, has already been promised £3million towards its build cost from the UK Government. More details are at www.nationalspitfireproject.com. □



(National Spitfire Memorial Project)



(Urban-Air Port)

DRONEPORT POPS UP

Air-One, a city-centre hub—or vertiport—for flying taxis and delivery drones—has been developed by UK-based Urban-Air Port, a start-up developer of ground infrastructure for the new urban air mobility (UAM) market. The project is supported by the UK government's Future Flight Challenge Fund, the local municipal council, and the Supernal, the advanced air mobility division of Hyundai. Ironically, Air-One has popped up in Coventry, whose perfectly good existing airport – surrounded by the warehouses of the very logistics companies which might benefit from such a project – is threatened with closure and destruction to make way for a so-far-speculative electric battery factory... □

NAVIGATING IN THE DARK?

Reports are circulating that Russian crews flying combat missions over Ukraine have been retrofitting their Sukhoi SU-34 *Fullback* strike aircraft with non-aviation personal GPS devices. The implication is that either the Soviet-era GLONASS satellite navigation service, or the Su-34's standard avionics fit, isn't up to the job of prosecuting an invasion of your neighbour's country. The Editor's own experience of trying to read the small screen of a personal GPS device strapped to the centre console of a bucking Douglas DC-3 cockpit, in bright and friendly (if hazy) East African skies – let alone in a dark, fast-moving hostile combat environment – suggests a level of desperation. Or perhaps GLONASS doesn't give directions to the nearest Sukhoi service centre or burger joint... □

