



Air Pilot

OCTOBER 2019 ISSUE 35





AIR PILOT

THE HONOURABLE
COMPANY OF
AIR PILOTS
incorporating
Air Navigators

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

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

MASTER:
Malcolm G F White OBE

CLERK:
Paul J Tacon BA FCIS

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

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The Honourable Company of Air Pilots,
Air Pilots House, 52A Borough High Street,
London SE1 1XN

EDITOR:
Paul Smiddy BA (Econ), FCA
EMAIL: editor@airpilots.org
FUNCTION PHOTOGRAPHY:
Gerald Sharp Photography
View images and order prints on-line.
TELEPHONE: 020 8599 5070
EMAIL: info@sharpphoto.co.uk
WEBSITE: www.sharpphoto.co.uk

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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.

EDITORIAL CONTRIBUTIONS:
The copy deadline for the December 2019 edition
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The address is:
52A Borough High Street, London SE1 1XN.
Our telephone number remains unchanged

TELEPHONE: 020 7404 4032
EMAIL: office@airpilots.org
WEBSITE: www.airpilots.org

Diary

OCTOBER 2019

2nd	Election of Lord Mayor	Guildhall
7th	Pilot Aptitude Testing	RAF Cranwell
17th	GP&F	Air Pilots House (APH)
24th	T&A Banquet	Guildhall

NOVEMBER 2019

2nd	Flying Club AGM	White Waltham
7th	ACEC	APH
14th	APBF	APH
21st	GP&F	APH
	Court	Cutlers' Hall

DECEMBER 2019

4th	AST/APT	APH
12th	GP&F	APH
	Annual Carol Service	St. Michael's, Cornhill

VISITS PROGRAMME

Please see the flyers accompanying this issue of Air Pilot or contact Liveryman David Curgenven at visits@airpilots.org.

These flyers can also be downloaded from the Company's website.

Please check on the Company website for visits that are to be confirmed.

GOLF CLUB EVENTS

Please check on Company website for latest information

Cover photo: The Red Arrows have been on Exercise WESTERNHAWK 2019. The aircraft are shown performing a mixed formation flypast with the USAF Thunderbirds, F-22 Raptors and F-35 Lightnings, down the Hudson River alongside New York on 22nd August 2019. See item in News.

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A message from your Editor...

One of the attractions of a flying career is that one’s workplace is above and removed from earthly concerns. Similarly GA pilots are drawn by the ability to set aside the humdrum worries of earthlings or their working life. And earthly concerns just now in GB are dominated by the dreaded B****t. Arguably all pilots only swap these concerns for another set – weather worries, ATC delays, company fuel management edicts, and so on.



However we seem to have entered an era where aviation is being subjected to political pressures from many sides. Nowhere is this more egregious than in the Chinese government’s deplorable interference in the affairs of Cathay Pacific and its indirect influence on the conduct of Cathay staff, including aircrew.

Closer to home, for many members, is the rare event of a strike by BA pilots. When commercial aviation started a century ago, only very wealthy passengers could afford to travel. Their aerial chauffeurs were much less wealthy. A hundred years on, and commercial air transport has become democratised to such an extent, and pilot salaries have risen strongly, such that aircrew are, at least in short-haul, demonstrably wealthier than their human cargo. BA pay scales, aired so broadly in public in recent weeks, will not of course be news to most Members, but I doubt whether many passengers, stranded or potential, will consequently have much sympathy for the striking aircrew. The publicity may however have the slight benefit of stimulating consideration of an aviation career for more pecuniary-minded youth!

Whilst not wishing to be judgmental on this topic, I note that an FT journalist commented that BA pilots “are not natural troublemakers” (perhaps you know an exception or two that proves the rule!), and are “thoroughly professional” (obviously). On the other hand, the CEO of IAG (owner of BA), a former pilot himself, has been conspicuous by his absence from public platforms on this issue.

However let us not become too depressed by the ingress of politics into our world of aviation. There are occasional glimmers of light. The CAA continues its process of derogating the oversight of lighter aircraft to member-driven organisations such as the LAA.

Paul Smiddy - Editor

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News Round Up

INTER LIVERY SKI CHAMPIONSHIPS

Do you wish to barrel past the Coopers, slice the times of the Barber Surgeons, make the Vinters drown their sorrows, leave the Security Professionals searching for the key to your success, make the Stationers look rather stationary in your vortices? Yes all that is possible if you hearken to this call for volunteers. It is that time of year when Sam Rutherford is again assembling a team for the Inter-Livery Ski Championships. As ever the event is being ably organised by the Ironmongers at Morzine in the French Alps, on January 22-24. See <https://www.liveryskiing.com/>. Good skiers, particularly those with racing experience, can contact Sam at sam@prepare2go.com.



AIRFIELD NEWS

Is unrelentingly bad. The gliding fraternity – in the shape of Lasham Gliding Society has lost its judicial review of the CAA's decision to accede to TAG's request for a swathe of Class D airspace around **Farnborough**. This will make existing GA congestion in the surrounding area more acute.

Old Sarum has had an eventful few months: its owners had their quest for planning permission for 462 houses on the land refused, and have now given all operators of businesses on the airfield three months' notice to quit. It looks like operations at this historic airfield (it opened in 1917) will cease on 31st October.

At **Wellesbourne Mountford** the businesses located there having been refused right of appeal regarding the application for tenancies, have just had

their tenancies extended for another year. All that is bar Take Flight, the flight school based there, which led the campaign to save the airfield. The local council still wishes the site to continue as an airfield and has initiated the process for a Compulsory Purchase Order.

POLITICS

Is possibly a subject from which we turn to aviation to escape. But one cannot help but notice that after the arrival of Boris Johnson as Prime Minister we now have our fourth Aviation Minister in just over three years, in the form of Paul Maynard, MP for Blackpool North & Cleveleys. He is not a pilot, unlike Grant Shapps, who has had to relinquish his role as Chairman of the All-Party Parliamentary Group on General Aviation (APPG-GA), upon his welcome appointment as Secretary of State for Transport.

It is rather sad to see that, under pressure from the Chinese civil aviation regulator, CAAC, Cathay Pacific had to eject its CEO Rupert Hogg, and his deputy Paul Loo. Moreover Cathay aircrew have been fired for participating in the Hong Kong pro-democracy protests. Most recently, the Company's chairman has also been axed to placate the Chinese.

LAA/BMAA MERGER

The Light Aircraft Association (which has many of our members in its number) is in merger talks with the British Microlight Aircraft Association. This was stimulated by EASA's initiative to remove aircraft up to 600kg MTOW from its jurisdiction. LAA chief executive, Liveryman Steve Slater, and the BMAA's boss Geoff Weighell, quickly found very common ground on this issue. The joint organisation will have more than 11,000 members, and oversee more than 4,000 aircraft on Permits to Fly. A pooling of resources makes eminent sense. At the very least it will ease the task of the CAA's liaison with the General Aviation sector!

The respective chief executives made their case at a talk at the LAA Rally at the end of August, and solicited suggestions for a name for the new entity. This editor's suggestion would be British Sport Aviation – the initials carry a pleasing historic resonance! The next step is a formal motion at the LAA AGM on 20 October. See http://www.lightaircraftassociation.co.uk/2019/News/LAA_BMAA_Rally.html



RED BULL / THE FAI / LESSONS IN RISK MANAGEMENT

Red Bull is ceasing sponsorship of the Air Race series at the end of this season (which has just concluded). At the time of writing no replacement sponsor has popped up. The loss of this series is having dire consequences on the operating budget of the Fédération Aviation Internationale (FAI) – the international body which oversees air sports. Such organisations only trim staff and resources with the utmost reluctance, and its member sports face the possibility of a significant rise in the fees charged by the FAI from next year.

At the LAA Rally, Nigel Lamb, ex-Rhodesian Air Force, and Red Bull champion in 2014, gave an excellent talk on how he approached risk minimisation in air racing. Now retired from that caper, he thoroughly enjoys touring in his RV.



REDS IN USA

Our affiliated unit, the RAF Aerobatic Team, has left its loved ones behind for a Summer tour of North America. This has produced some iconic images, some of which are reproduced below (all ©Crown Copyright 2019). Some of these show a mixed formation flypast the Hudson River in New York with US F22 Raptors, the USAF Thunderbirds, and F35 Lightnings. This is the Reds' first North American tour since 2008.



defect rectification and troubleshooting on aircraft from the Airbus family. He trained in the Emirates Aviation University, receiving an Advanced Diploma in Aircraft Maintenance Engineering in 2015, and his aim is to become a team leader and eventually an aircraft maintenance manager.

Ingrida Petniūnė is enrolled on the MSc Air Safety Management course. Currently based in the UK working as Senior Cabin Crew for Norwegian Air Shuttle, she is originally from Lithuania, and obtained her PPL in 2014 at Kaunas Airfield, coincidentally where I also undertook a period of aerobatic training over twenty years ago. Ingrida (photo below) obtained a degree in economics from Vilnius University in 2012, and after initially working in the financial sector switched to the aviation sector in 2014, initially in ground services before becoming cabin crew. She has recently also taken on the role of Fatigue and Safety Representative in her section, and in her spare time is involved with the

South East Coast Ambulance Service. Her long term aim is to manage activities with a safety plus medical content, for example in an Air Ambulance or Search and Rescue setting.

Stephen Smartt is undertaking the Air Transport Management MSc, and has also recently become a Liveryman of our Company. He is working as a captain for All Nippon Airways, based in Tokyo and flies the Boeing 767, and when in the UK is also an aerobatic instructor and ATPL theory instructor. Before working as a pilot, Stephen was a police constable in the Metropolitan Police, but had always been interested in aviation, obtaining a PPL in 2000, and ATPL in 2008. He is now close to completing the MSc, and his aim is to progress as far as he can in the Air Transport industry, something that he is adamant the knowledge gained on this MSc course will greatly facilitate.

The panel has no doubt all the bursary recipients will prove to be good ambassadors for aviation and air safety, and very worthy of their awards.

ACADEMIC BURSARIES 2019

From Assistant Prof Marion Wooldridge (Chairman, Air Pilots Academic Bursary Awards):

As usual, the selection panel interviewed the shortlisted applicants over two days in July, and three Bursaries were awarded. The panel were pleased to see that we had several applicants from the MSc Aircraft Maintenance Management course this year, as well as the usual numbers from MSc Air Transport Management and MSc Air Safety Management. We still await the first applicants from the recently established MSc Airports Management course.

We were also very pleased to be able to award one bursary to an applicant from each of the three represented courses. Ataque Shah is studying Aircraft Maintenance Management, and despite the additional challenges of being interviewed via Skype, impressed the panel with his enthusiasm and 'can-do' attitude. Ataque is a Licensed Aircraft Technician in Etihad Airways Engineering, based in Abu Dhabi, where he undertakes day to day maintenance,



GASCO

From Stephen Hayman:

The GASCO AGM was held 31st July in the AAIB premises Farnborough, followed by the quarterly meeting.

Items arising:- the Ditching and Sea Survival course was to be held on 1st August and was full. This was deemed to be a great course for those wishing to fly over the water. There will be another

next year. The courses on Weather also being very popular, next being 10th October. Airspace infringement continues to be a huge problem with the statistics not getting any better. Dr Mike Bromfield of Coventry University gave a talk on Loss of Control in Flight. They are doing extensive research in this area and are seeking volunteers if you have a free day or two in Coventry. This is very rewarding work (I know, been there done it!) Following the meeting most of us were given a guided tour around the AAIB hangar, fascinating but very chilling at the same time. Two aircraft had been in accidents that very week!! Also the remnants of the Southend Hunter.

MEMBERS IN ACTION – A CALL TO ARMS!

The Editor would really like to feature a page or two in every issue of members pursuing their craft, sport, or leisure activity with aircraft. Shots of a sunrise on the flight deck, a walk-round on the pan, or simply a beaming smile at five thousand feet (or FL300), would be gratefully received. *Air Pilot* is one of our most important shop windows, and we should ensure that our non-member readership is aware of the breadth of our activities.

CORRIGENDUM

The larger photo on p 16 of the August issue should have been credited to Ian Davies.

ARTICLES FOR AIR PILOT

The Editor welcomes any contributions. But please:

1. Send text as a Word document, not embedded in the e-mail. And definitely not as a pdf.
2. Put your name in the Word doc.
3. Send photos as jpegs of greater than 1meg resolution (if using a mobile phone check it is not taking small file sizes). And don't embed them in text.
4. A large number of decently sized photos are perhaps best sent via a Dropbox file. (Ask your children or grandchildren if you are not familiar with this technology!)

A DIFFERENT SORT OF INSTRUMENT PANEL

On a fascinating recent tour of Classic Team Lotus, the Editor was particularly taken with this Lotus 56B. In typical off-the-wall Colin Chapman fashion, it was powered by a Pratt & Whitney turbine engine developing c 450 bhp (and needed no gearbox because of its broad torque curve). We were told this was originally in a helicopter. The instrument panel therefore bears more relationship to that of an aircraft than a normal F1 car.



FLYING CLUB

The Popham event to which the Editor went was well attended. The Old Buckenham lunch numbered just one aircraft – Chris Fopp made it in his Bulldog with a friend. The Home Counties contingent appeared to have been put off by some forecast mild dampness!



Master's Message

By **Malcolm GF White OBE**

I hope you have enjoyed a summer holiday break.

It is hard to ignore the constitutional crisis which surrounds the United Kingdom, and indeed in our Air Pilots' Hong Kong region. Also, the disruption to commercial aviation, be it in the air or on the ground; the continuing work to sort the Boeing 737 Max; and indeed a debate I have engaged in with our Grand Master over VAT and private flying training. But that is discussing politics, so I will move on.

This is my "no deal exit message" as come Halloween 2019, V and I will be in Ottawa. Since my last Message our life has not stalled, and V will add her thoughts at the end. But all who we have met have commented on what a vibrant Company we represent. And that is our role as Master and Mistress.

But there is business to address as we represent both a City Livery Company and an industry which faces a complex and growing future, but in my view offers a huge opportunity. When you consider our membership, you cannot ignore the wealth of experience which is our backbone and which we can exploit, be it in the UK, or overseas. And do so from every level from primary school, to a teenager who wants to fly, and to the old and bold like me who can perhaps help as a Mentor.

Since my June Message many have celebrated the 50th Anniversary of the Apollo 11 landing in the Mare Tranquilities. I was privileged to meet Buzz, as it was for many of us to meet the Commander of Apollo 13, Jim Lovell, at our T&A Dinner in 2013. But it prompts me to think – how did they get into this business? Well back on earth it started at a young age. And in my view this adds value to why we should support young people to become involved in aviation; why the young members of our company are crucial to our future, and why our engagement with the wider aviation community is so important –

gliding, light aircraft, military aircraft, and of course commercial and business aviation. We have embraced the unmanned community and I predict that space will be next. How about Tim Peake, Upper Freeman (Space)? We have so much to offer.

Meanwhile, business does not stand still between Court Meetings, or indeed my Message in our magazine. I have been struck by the tempo of work in Head Office led by Paul Tacon and his team. Also, our engagement with the Corporation of the City of London, fellow Livery Companies and our Affiliated Units.

I feel progress has been made with our young membership; the safe keeping of mentoring, the closure of 9 WCL; and the milestone of the formal opening of our splendid Head Office on 17 September. This takes graft and should not be underestimated. Which brings me to reflect on our other activities and engagement. The number of events and visits have been considerable, and there will more detail on that in this edition. But a few headlines.

The Summer Garden Party at Biggin Hill nearly became an Autumn Garden Party, but around midday the skies cleared, and we were able to enjoy a magnificent display. A display supervised by Past Master Peacock-Edwards as the Deputy Display Director. Rick was on the other side of the airfield – so unusually he missed lunch. There's commitment for you. Also, on a day which marked the 79th Anniversary of what became known as "The Hardest Day" in the Battle of Britain, and one of the largest ever air battles in which the Luftwaffe lost approximately 69 aircraft and the RAF lost 68. So, while a draw on the day, this was perhaps the turning point. Makes you think. Vanessa and I will represent the Company at the Battle of Britain Service in Westminster Abbey on 15 September.

Other highlights have included visits to Martin Baker, Brize Norton, Odiham, the Tower of London and Waddington. To David Curgenvin, Graham Powell, the Secretariat and those of you who

have been able to attend – thank you.

There is more in the pipeline and the most daunting challenge is for Past Master Cox and Denise, and me and Mistress V to face our Young Members (and others) in the Inter Livery Quiz Night on 16 October. He who shouts the loudest might win – so we are in with a chance! Thank you, Colin.

In closing, it has been agreed that Air Pilots should be signatories to the Aviation Skills Charter. Potentially this is an important opportunity and there will be more on this as we refine the detail on how we can both contribute, and benefit.

On a lighter note V and I will join the City of London Sheep Drive on 29 September. Our start time on London Bridge is 1637! Join us if you can if only for a drink in Borough Market afterwards. Beyond that we look forward to the Trophy and Award Banquet and then packing our bags the next day as we head off to visit our overseas Regions. We will be back in time for the Carol Service on 12 December and my visit report will follow in January 2020. So, don't expect to hear much from us between now and then.

And on that note Mistress V wanted to add some thoughts.

Nothing really prepares you for becoming a Mistress, so in aviation terms I have tried to "Wing It". But not without the support and advice from those who have been there before and the friends around us. But it is a joy to support the Company during Malcolm's year as Master.

As M has said many times the opportunity to fly used not to reach everyone, and in many circumstances that remains the case today. But life has changed. When I attended my local comprehensive school, flying was never mentioned as a career, or even fun and we live near Elstree. Fast forward a few more years and our daughter's girls' school didn't mention flying as a possibility either; let alone engineering.

But today women, young and the more mature, just like the WAAFs in World War II are back in the cockpit as captains,

instructors, military pilots and more. As you will know better than me flight can be a life-changing experience. That is why the RAF Museum (where I work) has placed so much emphasis on Access and Learning. In the past year we have seen 70,000 primary school children attend half day classes at our two Museum sites. The response has been

immense.

In the meantime, I have been privileged to represent our Company at many City Events. M has even let me go solo! But there have been some common messages: fellow consorts have been surprised by the size and reach of the Honourable Company; impressed by our relevance to the future and a phrase often used – you

represent a modern and active company.

Finally, it is fun. In the last six months I have met many new faces and made new friends which I am sure will endure beyond my time as Mistress. It has also been a real education which I cherish and will never forget. I look forward to seeing you at the T&A and if not, then before Christmas.

From the Desk of the Director Aviation Affairs

Liveryman John Turner

INTERESTED IN AVIATION?

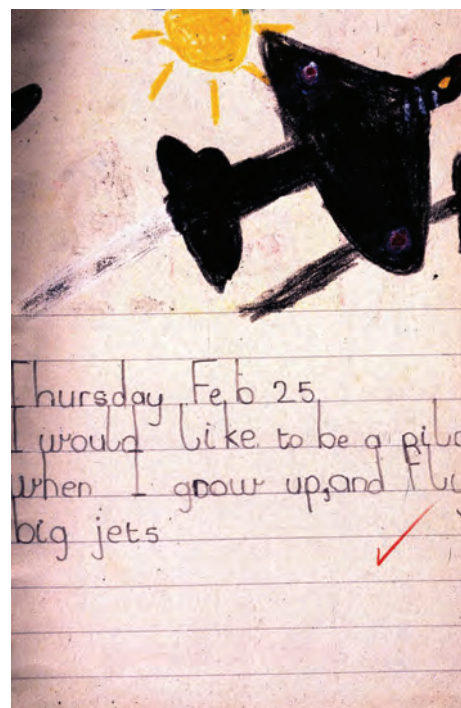
Two things caught my attention as I prepared to write this article:

- Royal Air Force (RAF) Typhoons deployed to Amari Airbase in Estonia this year, in support of Baltic Air Policing, have been scrambled much more often than during earlier deployments. This year the Typhoons have intercepted Russian Su-27 & Su-30 Flanker fighters, and IL-22 Coot & IL-76 Candid command post/transports that were operating around the Baltic states.
- A fleet of drones has been deployed in the Canary Islands to stream live video to the police to help apprehend bad drivers. The drones will be used on main roads (where 75% of fatal accidents occur) rather than motorways, and will target drivers using mobile phones, not wearing seat belts, overtaking when they should not or putting motorcyclists, cyclists or pedestrians at risk.

Therefore, it was tempting to write about whether we have entered another Cold War, and whether drones can actually monitor road traffic closely without causing accidents by distracting drivers. But instead there is a more pressing matter to consider: everyone in our Company will have an interest in aviation (many would say it is a passion), but the question is – “How did that arise?”

At a time when the demand for qualified air pilots, aerospace engineers, scientists and technicians is forecast to far outstrip the available applicants, the answer to that question takes on added significance for commercial air transport, general aviation and aviation & aerospace industries. Each of us may have been lured into a career in aviation by some memorable personal experience, or by a more gradual realisation that developed over time, or by something entirely different.

For instance, I was intrigued from an early age by the Austers and Chipmunks repeatedly flying on apparently prescribed paths above my garden (actually they were in the circuit at Ipswich Airport). However, it was at five years old, when my father took me to a RAF Wattisham Open Day where I saw the black Hunters of 111 Squadron's Black Arrows perform formation aerobatics, and I sat in the cockpit of a Meteor, that I became firmly set on becoming a pilot. (I even recorded the impression the air display left on me in my school notebook.) Once I was old enough, I joined the Air Training Corps which allowed me to visit a different RAF station for a week each summer, to fly my first solo in a glider and eventually, though a Flying Scholarship, to gain a private pilot's licence. Thereafter, I was lucky enough to go on to study physics at university and then fly with the RAF as a fighter pilot, flight instructor and test



pilot, before joining the UK aerospace industry and continuing to fly as a test pilot. My personal experience is not unique. I've met many people who can describe a similar 'airshow moment' and who obtained a pilot's licence a year before their driving licence. Equally, when discussing this with industry flight test engineers, about 50% claimed an airshow first launched their interest in engineering and aeronautics.

Personal anecdote is informative, but it is unlikely to guide government policy or spending unless supported by hard evidence. That evidence is extremely difficult to gather; neither the military nor industry asks or records what inspired people toward their chosen careers. Now, the heritage & airshows work group of the UK All Party Parliamentary Group on General Aviation (APPG-GA) hopes to remedy

this through a research project. The primary focus will be on the extent to which airshow and aviation museum experiences drive people into careers spanning all the sectors of aviation that generate enormous economic benefit for the country. This has our full support, especially if it highlights the factors that instil in people the desire to become pilots. We can target our efforts toward encouraging others to follow in our footsteps, so please take part if you are asked to participate.

Of course, there may well be many answers to the question “how did your interest/passion for flying/all things aeronautic arise?”, that fall outside the focus of airshows and aviation museums. An informal survey of our members cannot provide either the sample size or scientific rigour that the APPG-GA is seeking. Nonetheless, it will illuminate the things that made us set off to do what we do and can help towards achieving our strategic priorities. To quote from our 2017 Strategic Plan:

10.0 Our Strategic Properties

“To be recognised as a professional authority on safe aviation operations and to make a significant impact in the delivery of our purpose”. In support of this objective we seek to:

10.1 Help enable and deliver education, training and access to the aviation sector

10.2 Engage in the government-led Science, Technology, Engineering, and Mathematics (STEM) initiative.

In this instance I feel the potential variety of members’ responses will need a less constrained approach than SurveyMonkey questionnaires that we’ve used in the past. Therefore, I hope you can spare the time to send me a short email describing the following:

- What sparked your decision to follow a career in aviation? Was there a seminal moment or did the idea develop over time? Perhaps it was a simpler matter of opportunity or economics?

- What career (or non-career) path was the result? This is not just about professional pilots; whichever part of aviation you are or were active in, we provide economic or scientific benefit and stimulus through our involvement.
- Whether you are happy to be identified (or wish your remarks to be anonymous) in any report.

So that I can keep my Inbox under control, please use the title INTERESTED IN AVIATION in any email response to daa@airpilots.org and if you would rather write a letter, please post it to the office address.

I look forward to receiving your response and reporting the consolidated outcome in a future article.



GAZETTE

APPROVED BY THE COURT 12 SEPTEMBER 2019

ADMISSIONS

As Upper Freeman

Richard ABOBTO
Benjamin James Bansal BARTON (HK)
Richard DAWE
Anthony Frank FESCHE (HK)
Sahil HATHIRAMANI (HK)
David Gene McKENNEY (NA)
Dany Jean Joseph POITRAS (NA)
Gareth Edmund SHAW (HK)
Richard William Goodair THRELFALL (HK)

As Freeman

Jason ECONOMIDES (Hons)

As Associate

Kelvin CHAN (AUS)
James Richard WILLIAMS

ACKNOWLEDGED BY THE COURT
12 SEPTEMBER 2019

REGRADE

To Livery

Alexander TANO

As Upper Freeman

Tom KEABLE

As Freeman

Alexander BEATTY
Edward COLES-GALE (HK)
Chieh LING-LI (AUS)

DECEASED

Sir Michael MARSHALL
James Graham TAYLOR

RESIGNATIONS

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Theodore ALGIRE (HK)
Alan ANDERSON (HK)
Ronald AUSTIN (AUS)
Stephen AYRES
Mark BEVILLE-ANDERSON
James BURNHAM
Aileen CHAN (HK)
Jackie CHAN (HK)
Richard CLARKE (HK)

Richard DAVIS

George ENGLISH (NA)

Oliver FERRARIO

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Suleman HUSSAIN

Jake KENNY

Irvin John LEE

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Keith MORRIS (HK)

David NEWBERY (HK)

Alan NG (HK)

Raymond OSBORNE

Anthony John Charles PLOWMAN (HK)

Andrew QUESSY

John RICHARDSON (HK)

Finian SALTER

Simon SPARKES

Peter WILLISON (HK)

Steve Wing-Chi WONG (HK)

Keith WRIGHT (AUS)

Company visit to RAF Brize Norton, 6 September 2019

By Liveryman Nick Wilcock

It had been something of an early start for many on Friday 6 September, for we had to be at the designated car park at RAF Brize Norton in time for an 0630 start. Dawn was just breaking as 18 members arrived to be greeted by our host for the day, Flt Lt John Hall, who is himself an Upper Freeman of our Company. The purpose of our visit was to fly in an A330 Voyager aircraft of the RAF's tanker force, thanks to the kind generosity of Wg Cdr Pete Thorbjornsen, the OC of 101 Squadron, one of our affiliated units (on which I was proud to serve for many years when flying the VC10K).

After boarding our coach, we were transported direct to the air terminal, where we were efficiently checked-in. Those who'd had a long journey enjoyed a very welcome coffee before we went through the usual airline-standard security check. If only all airports employed staff as friendly and professional as those we met at Brize! During the short wait to board our aircraft, I met some members of the Luftwaffe who were flying in another aircraft, for it transpired that we were flying as part of EX COBRA WARRIOR, a very large multi-national exercise. We would be supporting 'Red Air' (the 'bad guys'), whereas a Luftwaffe A310MRTT and another Voyager would be supporting the 'good guys'. The RAF's Voyager force uses aircraft and services provided by Air Tanker under a PFI contract, costing over £1M per day; although the force itself is made up of 101 Squadron and 10 Squadron, it operates as a single force with no real differences between the two squadrons. There are two types of Voyager in RAF use: the KC2 which has wing AAR pods only, and the KC3 which also has a centreline hose. We were to fly in ZZ330, a KC2, captained by Capt. Chris Heijs of the Royal Netherlands Air Force. He was supported by co-pilot Flt Lt Steve Caryer, and Mission Systems Operator, Sgt Andy Pemberton, as well as

by Air Steward, Cpl Tom Burrell, who met us as we boarded. Although the aircraft was fitted with more than 250 seats (in a far more generous seat pitch than usually encountered in airlines these days), and as there were only 18 of us, there was plenty of room. However, regulations required that we all occupied a small section of the aircraft for take-off and landing. Even though the aircraft was one of the first to be delivered, the interior was in pristine condition and it was very obvious that Air Tanker takes great pride in maintaining their aircraft in such showroom condition.

Call-sign MADRAS 52, our aircraft was loaded with roughly 75% of its maximum fuel capacity, and over the course of the flight we were planned to offload 39 tonnes of fuel to our receiver 'trade' in 3 hours on a tactical air refuelling area off the coast of Northumberland. Due to exercise constraints, we were required to be 'on task' earlier than strictly necessary, with the first receivers not due until later. As this was a multi-national exercise, our customers were to be Typhoons of the RAF's 2 and 29 Squadrons, as well as similar aircraft of the Italian and German air forces, to whom the aircraft is known as the Eurofighter 2000.

After pushing back at 0825 local, we were soon airborne from Brize Norton's RW25, the astonishing performance and quietness of the Voyager bearing marked contrast to the 'roar of the four' of the VC10 - something for which the local population is extremely grateful as noise complaints are virtually unknown these days, we were told. After completing the Standard Instrument Departure, our route took us to Whitegate, a waypoint in Cheshire, from which we crossed Manchester's airspace at FL220 to the Pole Hill VOR, before turning overhead RAF Leeming to fly north to a waypoint off the coast near Alnwick in order to remain clear of the exercise area, then direct to the refuelling area:



Imagery obtained by use of the A310MRTT Mission Computer System software

During the transit, I took the opportunity to plan the mission using the A310MRTT Mission Computer System software developed by FunkeAVIONICS GmbH, in order to produce a screenshot for this article when replicating the flight later. [Editor's note - I hope it's more reliable than my Funke 8.33 radio which failed after 18 months!] Interestingly, the Airbus Mission Planning System provided for Voyager is not yet approved for use, so the RAF still uses traditional planning and management methods doubtless familiar to all those who have operated tanker aircraft of earlier generations.

Once on the refuelling area at 0915, the crew trailed the wing hoses and completed the necessary checks, whilst exploring the weather in the area in order to remain clear of cloud and any turbulence. We were free to walk about the aeroplane and to visit the flight deck, but before very long the first pair of Typhoons joined up allowing ample opportunities for enthusiastic photography - the best possible form of in-flight entertainment. This is an opportunity denied to passengers travelling in the USAF's KC-46A Pegasus tanker as, in contrast to the A330, the KC-46A has no fuselage windows and has rather austere palletised seating - 'Rendition Class' travel, as it has been described by some!

Over the following 2 hours the crew transferred some 34.5 tonnes of fuel to the receivers. We left the area at 1225,



climbing to FL270 and routing towards Leeming, before being cleared direct to the eastern edge of the Lichfield Corridor, crossing through the corridor at FL140. At the western end, we began the descent towards Brize Norton, landing from an ILS approach exactly 5 hours after take-off. Wg Cdr Thorbjornsen came to meet us at the aircraft; Past Master Rick Peacock-Edwards then gave a short speech of thanks, remarking that all his previous tanking experience had been 'from the other end' in his time on Lightnings, Phantoms and Tornados, before presenting Pete with a cheque made out to 101 Sqn funds which will be used for supporting the squadron's nominated charities.

All too soon we were on our way back to the car park having enjoyed a superb visit, meticulously arranged by Liveryman David Curgenvén. The pride

and professionalism of all with whom we came into contact at RAF Brize Norton was all too clear to see, and on a personal note I was very pleased to note that the Voyager force is clearly maintaining the standards of flexibility and efficiency in air-to-air refuelling for which the RAF is justly held in high regard. Our grateful thanks go to Gp Capt Dan James, Station Commander of RAF Brize Norton, Wg Cdr Pete Thorbjornsen, OC 101 Sqn, and to our excellent hosts Flt Lt John Hall and Cpl Tom Burrell, as well as to Capt Chris Heijs and his crew.



Trophies and Awards 2018-2019

The following are the awards approved by the Court for the 2018-2019 year. Presentations will take place at the Company's Trophies and Awards banquet to be held at the Guildhall in the City of London on October 24th.

LIFETIME CONTRIBUTION TO THE AEROSPACE INDUSTRY

The Award of Honour

Stuart Sendall King FRAeS

FOR OUTSTANDING COURAGE OR DEVOTION TO DUTY IN THE AIR

The Master's Commendation

Flight Lieutenant Christopher Stradling

The Master's Medal

Wing Commander Rob Caine MBE
MA RAF

Winchman Paramedic Carlton Real

The Prince Philip Helicopter Rescue Award

Caernarfon Rescue 936;
Captain Kate Simmonds;
Captain Dave Kenyon AFC;
Winch Operator Richard Taylor QGM;
Winchman Paramedic Alistair Drummond.

FLIGHT OPERATIONS

The Sir Barnes Wallis Medal

Major Thomas W Aseltine

The Grand Master's Medal

Aaron Keith Pearce

The Brackley Memorial Trophy

British Airways Concorde Fleet

The Johnston Memorial Trophy

RAF Tornado GR Force

The Myles Bickerton Trophy

Captain Jeff Milsom BSc(Hons)

The Hanna Trophy

Nigel Lamb

FLIGHT TEST

The Eric 'Winkle' Brown Memorial Trophy

Test Pilots of the F-35
Integrated Test Force:
Nathan J Gray;
Lieutenant Commander Peter Wilson;
Squadron Leader Andrew Edgell;
Major Michael Lippert USMC.

SAFETY AND SURVIVAL

The Sir James Martin Award

Lieutenant Jonathan Moore RN

The Cumberbatch Trophy

Warrant Officer Class I Peter R
Balcomb AAC

TRAINING

The Glover Trophy

Lieutenant Michael Plant RN

The Central Flying School Trophy

673 Squadron Army Air Corps

The Pike Trophy

Dorothy Saul-Pooley
Carol Louise Cooper

FOR SERVICES TO THE COMPANY

The Sir Alan Cobham Memorial Award

Ruth Mary Cundy

REGIONAL AWARDS

The Grand Master's Australian Medal

RAAF Aircraft Research and
Development Unit

The Australian Bi-Centennial Award

Nathan Higgins

The Captain John Ashton Memorial Award

Captain David Evans

The Jean Batten Memorial Award

Glyn Powell and Warren Denholm

AVIATION MEDIA

The Award for Aviation Journalism

Ben Dunnell



Zero to Zoom! Young Air Pilots at RIAT

By Associate Becky Kwo

Teamwork was at the forefront of the Young Air Pilots effort to mount an exhibit at RIAT. We had a three week deadline to staff and organise an Air Pilots stand to fill in for a last-minute dropout at the TechnoZone, the STEM-focussed RIAT marquee. A sustained social media campaign proved fruitful and so to Fairford we went. A little sprucing of the stand was completed on my kitchen floor as Georgie Millington and I used our Blue Peter skills to mount scholarship posters. Roger Gault, an honorary Young Air Pilot [Ed: it's a broad church!] and grass-roots YAP supporter, also deserves a mention for making home-grown fliers advertising the Air Pilots' Flying Start website and other useful pilot careers resources.

Our team assembled from all over, although Amy Palmer wins the prize for coming the furthest (Belfast), and Liam Bennett for the most road miles (including 2X return trips from London). The team was looking sharp and dandy thanks to a very generous donation from Sebastian Pooley, YAP founder, of some Young Air Pilot branded polo shirts.

Setting up was very easy thanks to the superbly organised RIAT machine, and we were ready for the influx of schoolchildren on the Friday. Admission to RIAT was free for under 18s on this day, and many schools and youth groups availed themselves of this, which,

combined with the disappointingly 'British' weather on Saturday meant the TechnoZone marquee was very busy indeed. We held our own against our immediate neighbours – the impressive and engaging stands from Airbus, Lockheed Martin and GCHQ to name a few. We gave youngsters of all ages a taste of skills required to be a pilot, and offered information about our scholarships. A particular highlight of the Friday was an unexpected opportunity to meet Tim Peake, who was gracious enough to talk to team members about flight training and take a 'selfie', before being interviewed by local news in front of Airbus' Mars Rover.

Saturday promised better weather, and the busiest day of the show was reflected at our stand. Despite more air displays, we maintained a steady stream of business with many young people and their families passing through. The tantalising sound of fast jets and display teams roaring overhead saw our volunteer team rotating in and out to have a gander at the air displays. A mass exodus was seen to watch the Red Arrows and BA100 BOAC-liveried Boeing 747 flyby. It was a stirring moment of inspiration for our team of young pilots, most of whom are still at some stage of training, young hopefuls gazing up at the pinnacles of both commercial and military aviation. Other highlights among our volunteers included the A400M doing mind (and



Star Wars invaders



Invaded by a star: Tim Peake



physics)-bending manoeuvres, the Spanish Harriers and pleasingly noisy F-18s.

Beyond young people, we were also visited by many other members of the industry, including prospective Air Pilots members and pilots from aviation organisations we aspire to join. A particularly excellent memory was watching the Master, Malcolm White, experimenting with some 'unusual attitudes' on the new Air Pilot iPad 'Plane Lander' programme. Other notable guests included Chewbacca and Darth Vader from the Star Wars films, accompanied by a phalanx of Storm Troopers.

It was delightful to see the next generation of aviation, in the form of future engineers, air traffickers, and of course scholars and pilots. Having a stand

at RIAT offered a valuable opportunity for Air Pilots to engage with young people in the early stages of their education and career decision making, a trend in line with the industry's practice of aiming for engagement at a younger age. We were proud of being able to convey not just a variety of knowledge and experience from our volunteer pool, but most importantly enthusiasm for our chosen industry, sharing our own stories from scholarships and careers. We have all benefited from someone in Air Pilots or elsewhere in that industry volunteering their time and enthusiasm, and it was very rewarding to be able to carry on that tradition.

A special thanks goes to Jon Hill for not just working on the stand but giving our volunteers tours of the Voyager static display, and to all our volunteers for their

hard work and enthusiasm. The Honourable Company of Air Pilots made a lasting impression with the future Pilots and Air Traffickers who came to our stand in the TechnoZone. We can't wait to see what we can bring to the table in RIAT 2020 with more than three weeks' planning. The countdown is on and we are looking forward to next year- see you there! If you're a young member (or young at heart) and would like to come along and volunteer for a day on the stand next year - please get in touch.



The Pumps, the Shouts and the Fire Dart

By Assistant Elizabeth Walkinshaw

If there is another visit to Dowgate Fire Station with a trip on the Fireboat, then you need to be there! A thoroughly enjoyable, educational and interesting day was had by members and partners on Friday 26th July with all coming away saying it was such a great visit.

Dowgate Fire Station is unique in that it is the only fire station located within the City of London. It serves an area of approximately two square miles, and is a dedicated station with all firefighters being full timers. They do not prioritise call outs, always responding with blues and twos. Tasks are many - fires, floods, rescues, traffic collisions to name a few.

As is the wont for the emergency services, when we arrived, 'the Pump' had been called out to a fire on the District Line but returned later in the morning. We were lucky as they had been continuously out the day before from about 9am to 8pm on multiple call outs or 'Shouts', because of incidents caused by the intensely hot weather. There are four teams with five crew who cover 24 hours on a two days/ two nights/ four days off rota.

We were split into two groups, one going to board the Fireboat Fire Dart at Blackfriars Pier, only a short walk away as they had brought the boat to us, instead of our having to go to Lambeth pier - about a 45-minute walk away.

I was in the second group who stayed at the station and were given an interesting insight into the world of Fire Investigation. The fire investigation dogs, however, had been on such a long duty the day before that Sherlock and Simba were having a well-earned rest that day but we hope to see them on the next trip. This part of Dowgate Fire Station is a very important asset to the City as they investigate where the fires have started and how they have spread; the dogs are highly trained to identify ignitable substances. There were some items, such as domestic machines, wrapped up at the back of the station as evidence under investigation.

Soon it was our turn to swap with the other group and we made our way down to the pier to be kitted out with life jackets, before enjoying a superb trip up and down the Thames. There are two



Fireboats, Fire Dart and the spare, Fire Flash. They are expecting a new replacement boat soon for the fleet. These boats are called 'Wave Patrollers'. They are fast (30 knots), twin engine, single-hulled landing craft with a flat bottom and reinforced keel. The water



pumps can deliver 1800 litres per minute. There is a crew of four.

We were told that they tackle fires, from the water, on buildings facing the Thames and also on boats. They also rescue and tow boats in trouble. Another aspect of their work is rescuing people and animals from the water. One sadly that was in the news was the lady who had been knocked over Westminster Bridge during the terrorist attack and the crew of Fire Flash used their specialist equipment to bring her on board. Cold water shock is a huge problem caused by falling into water below fifteen degrees and the Thames is colder than this.

For interest, the crew man who chatted to me was asking if his Yachtmaster Certificate would be helpful to him to ease his training as he wanted to learn to fly and the boat driver already flies helicopters. I believe the Station had a helicopter in previous years but no more. As we docked back at Blackfriars pier, a large wave rocked the boat from one of the passing large boats and caught Dennis unaware as he had removed his grip from the rail to turn to disembark. The Fireman, with great speed, steadied Dennis and said, jokingly, that he could mark that down as a rescue!

After our fantastic journey on the Thames, we met up with the other group for a lovely, quick lunch at the Banker which is just round the corner from the Fire Station.

Our afternoon then continued back at the Fire Station where we were shown and told about much of the equipment carried on the 'Pump'. All this equipment is checked at the start of every shift to ensure it is all there and in working order (sometimes items are borrowed by other teams if their engine is farther away at an incident and also targeted by thieves). This is part of the routine for the day which also encompasses training, physical

fitness and, of course, the 'Shouts'.

The Station Commander, James Chapman, is also an Incident Commander and he takes control of a larger incident. At one time the Fire Station of course used horse drawn fire engines, but today's machinery are hugely efficient, extremely well-equipped Mercedes vehicles. We were shown so much that I am going to talk about only a small part of the equipment:

- The thermal imaging machine is used to identify sources of infrared radiation, which is particularly useful in dark or smoke-filled environments. It is interesting to note that it does not see through glass. It is also one of the items that can be targeted for stealing as it is an expensive item and, seemingly, it is very useful to identify places growing cannabis.
- The cutting tool is extremely heavy and a crew man will need to hand over to a colleague when cutting open a vehicle as it is so physically demanding. It is hydraulically powered and known as 'The Jaws of Life'. An amazing piece of kit.
- There are two types of breathing apparatus - one or two cylinders. One cylinder weighs about 15 kilos and has a duration of about 31 minutes when breathing normally but, of course, this is reduced if breathing heavily. With specialist training, firefighters can use the two-cylinder version which weighs 23 kilos and has an extended time of 47 minutes, breathing normally. Nowadays, the time left is monitored from outside the fire but, before this, individuals had to monitor their own quantity left which was much more difficult. They always go in and out, in twos, and those going in and out are monitored.
- There are now fire escape hoods kept on board to enable those rescued to



breathe clean air for 15 minutes in the smoke.

Our next experience of the packed day was to watch the Fire Drill with ladders, rope, fire hoses and a dummy rescue. The 'Pump' was reversed out of the building and the hoses were connected to the hydrant. Locating the nearest hydrant to a fire is the first task of the driver. The 'Pump' has an in-built tank with limited capacity. The ladder requires four fireman to carry it. This reached up to the fourth floor of the building. Two firefighters climbed up, throwing down a rope, taking up the hose to tackle the fire and subsequently, rescuing the 'dummy' from the building. A great drill.

The last part of the action-packed day was an experience of the fire hose - point and squirt! A huge amount more than a squirt, though, as Denis's car experienced when members and partners used his car as a target since it was parked in the courtyard. At least he didn't need to go through the car wash on the way home, and was heard to say that he was glad he had closed his windows!

A huge thank you to Chris Green who suggested the visit, David Curgenven for organising another great visit, Dave Bulbrook (Borough Commander), James Chapman (Station Commander), Brin Powell (Fireboat Commander), the Fire Investigation officer and all the dedicated firefighters who gave us so much of their precious time.

The Company visit to Airbus Broughton

By Assistant Ed Pooley

In a relatively rare foray 'up north', a select but diverse group of members ranging from a relatively young Aer Lingus pilot about to get his command to our Master Elect paid a visit to the most modern part of the Airbus UK manufacturing presence on 4 July. Those flying in had beautiful VFR weather both to and from Hawarden and were absolved from landing fees too. Despite the excellent weather, one of the fliers even insisted on flying his Cirrus north on an IFR flight plan at FL 100 without realising that getting descent might not be a controller priority and when last seen was wondering whether it might be worth cancelling an already filed similar return flight plan in order to reduce the likely time spent airborne.

Our introduction reminded us of the history of manufacturing at what was until fairly recently known as Hawarden (as the aerodrome within the site still is). The location was approved in 1936 as a government Shadow Factory when aircraft production was being stepped up in response to the increasing risk of hostilities in Europe; Vickers Armstrong was given the job of running the site. The first of over 5000 Vickers Wellington bombers rolled off the line on 3 April 1939 while construction of the factory was still not quite complete. Production of these continued until 1944 and in that final year, a new world record for the fastest production assembly of an aircraft was set when a Wellington was built in 24 hours 48 minutes from start of assembly to first takeoff.

Some Avro Lancasters were also built at the site but after the war's end, the government's manufacturing priority became Prefab housing, which was the sole output from 1945 to 1948. Older members may remember many of these lasting well beyond their design life, presumably confirmation of the quality of their design and/or the standard of manufacture. After the Prefab years, de Havilland took over the site and began manufacture of some well known aircraft

types including the Mosquito, Hornet, Vampire, Venom, Sea Vixen, Dove, Heron and even a few Comets. When the site owner changed to Hawker Siddeley in the early 1960s, it became the home of the de Havilland-inspired British design and manufacturing success story that became the HS125 programme with final assembly continuing at Broughton until 1996.

The role of the UK as the Airbus wing design and manufacturing dates back to the expertise Hawker Siddeley brought to the original A300/A310 aircraft wing design from their Trident days. As Hawker Siddeley was folded into BAC and finally into BAE Systems, the UK established its position as the designer of wings for the A320 family at Filton and the type's main wing assembly site was established at Broughton. Division of the work shares in Airbus aircraft has always followed the proportion of national investment, and when the UK took a 20% share in Airbus in 1979, the UK confirmed its specialist role and has since been responsible for the design and assembly of wings for all Airbus types and their variants. This arrangement has so far survived the exit of BAE Systems as holder of the UK share in Airbus in 2006. It currently assembles over a thousand wing sets per year, although I did hear talk of Spanish labour costs being cheaper.

Our visit this time was to the East Factory which assembles A320 family wings leaving the other two factories on the site to assemble wide body wings for the A330 and A350 families, as well as those for the final A380s before production ceases. As soon as we got onto the walkway overlooking the beginning of the wing assembly line, an obvious difference from such lines in the past was immediately evident. Since 2017, the build is carried out with the wings in horizontal jigs not the vertical ones previously used and has changed from parallel static assembly of wings in situ to a to a semi-automated 'flow line'

assembly sequence. By enabling the intelligent application of robots and removing a lot of the heavy manual drilling and integration issues, this change has enabled the factory to meet the increasing demand for A320 family wing-sets which we were told is currently 58 per month - up from 50 in 2017 and soon expected to increase to 60. The only other A320 family wing-set build locations are Tianjin, China and Mobile, Alabama which turn out 4 wing-sets a month to meet their local assembly needs.

A320 wing construction was the first to incorporate fibre-reinforced polymer and we were informed that whilst the A320 wing ribs are still aluminium (55 % of the weight of each wing), the spars and skin are made of much lighter weight GFRP (Glass Fibre Reinforced Polymer). The 33 aluminium ribs in each wing come from South Korea and a day and a half in the first bay sees them attached to the front and rear spars. The structure is then moved to the next bay where, in 10 days, top and bottom 'covers' (the wing skin) are attached with re-useable temporary bolts in a quarter of the holes which will eventually be used to permanently secure the structure. Moved to the third bay, the temporary bolts are removed and two seriously impressive automatic precision drilling machines, one working from below and another from above make the 4,500 final bolt holes in 4½ days. Then it's on to the fourth bay where the temporary bolts are taken out, a vacuum lifting machine removes the upper and lower skin in turn to allow the precision-drilled holes to be de-burred and the structure is then secured with permanent bolts, a process which uses 3 jigs and takes 9 days.

Then it's time for metrology validation and some final quality checks with the vacuum lifter in use again to move what is by now a 12 tonne wing. This then goes to an adjacent building where the fuel system is installed before each wing-set is taken to Bremen in a Beluga for the

installation of electrics, hydraulics, and flight controls as well as the slats and flaps. From there, they are delivered to the final assembly lines in either Hamburg or Toulouse.

It was interesting to learn too that not all A320 ('single aisle') wings leave Broughton by Beluga. Production resilience requirements mean that a few sets go by road to ensure an alternative

system is in place just in case air transport should for some reason not be possible. When we asked how they managed to transport A330 and A350 wings by road, we were told that they don't, given much lower final assembly rates for these larger types - and of course all the A380 wings have always travelled to Toulouse almost entirely by boat.

Finally, we learned that although the site

is only just within North Wales, the majority of its 6000 employees live in the Principality and tend to be long-term employees. Apparently 70% of the senior managers currently at Broughton started work there as apprentices and each year there are 1000 applicants for 140 junior vacancies. All in all, it was a very interesting day evidently enjoyed by all - yet another success for our hard-working visits team.

Jottings on Malta G.C.

By Liveryman Graham Powell

It has been twenty five years since I first visited Malta to participate in the Malta Air Rally of 1994. Reviewing an old log book, I am now quite surprised how I was prepared to set off in our Socata Tobago with just 500 hours total time. With my co-pilot Barry, we made it successfully, routing via La Rochelle, Cannes, Alghero, Cagliari, to Luqa.

We were determined to do well in this competition, and we were aided by Barry's purchase of a new secret weapon. This was an "atomic clock". It proved its usefulness at FL80 abeam Sicily, when we worked out that we had an hour to lose due to the Malta time zone. So the flaps came down, and the throttle was reduced. It was critical to make our allotted arrival time at the Gozo beacon. It all worked out after a last minute dive, and we were within five seconds of the target time. Then on to Luqa for a spot landing arrival. Our registration G-GOLF made the front page of the local newspaper, but we were certainly not

celebrity players.

The glass of champagne on arrival was very welcome, and we were both impressed to see parked next to us a shiny new Piper Malibu flown in by a Swiss pilot and his Japanese girlfriend. We couldn't help overhearing a question by the very efficient arrivals team. Could you please tell us why you have arrived exactly an hour earlier than expected? Apparently, this couple spent the entire stay not talking to each other! It could have been us if we hadn't had the atomic clock on board and doubled checked our flight planning!

We must have done reasonably well on the spot landing because Barry was presented with an amber Maltese falcon, which lived on his shoulder at the Awards Dinner and for days afterwards.

At the end of the Rally we set off initially to Figari and helped along by an early GPS system (no Sky Demon in those days), we followed the magenta line on

the small screen. Over the sea and without sight of any land mass, boredom was relieved by asking passing BA airliners to pass on our position reports. Sitting comfortably in their pressurised tubes, they thought we were absolutely crazy flying long distance VFR, with a single engine, over the sea. One even suggested there were sharks in the Mediterranean just to cheer us up! But Figari did eventually appear where we expected it to appear, and we were on the way home. Our return route was then via Tarbes, Biarritz and Guernsey. Our very first long distance flying adventure!

Since that adventure many years ago I have read some of the history of Malta, and had been particularly interested in its important strategic role during WW2. So when the opportunity to visit the Island and the city of Valetta appeared this year, I was hooked, particularly as surrounding the city are a number of important sites connected with that period.

I am certain that all members will



BAC 111



Bird Dog



Fiat GR91



Hurricane



Lightning



Meteor

remember that the George Cross Medal was awarded to the island of Malta by King George VI in 1942. The medal with its inscription “to the brave people of the Island Fortress of Malta” is still on display today. Its award recognised the heavy German and Italian bombardment, and the island’s suffering and stoicism. With very limited food supplies and the difficulties of convoys getting through the U-boat blockades, it was calculated that fuel and food supplies were down to only a few days. But air superiority was eventually re-established, and the tide turned. In July 1943 the Allies used Malta as an advanced base to invade Sicily. And the rest, as they say, is history.

Malta achieved independence within the Commonwealth in 1964. It was declared a Republic under the next Maltese Labour Government; after the termination of the Military Base Agreement in 1979, the British military left the island. On 1st May 2004 Malta became a member of the European Union.

With the investment of millions of Euros, Valletta has become a bustling capital city, with modern architecture mixed alongside more traditional buildings. The avant-garde architecture of the Parliament building is particularly impressive.

But with a long history involving the

British, there is plenty to see which reflects our long military influence. Museums worth visiting to understand the WW2 history include the Lascaris War Rooms with tunnels, the Malta at War Museum with underground air raid shelters, the Saluting Battery, and Fort Rinella.

As an aviator, the Malta Aviation Museum was top of my list. This involved an easy 25 minute bus ride from the city to the museum’s site at the former RAF Ta ‘Qali. From the ground there is little to see of the original airfield, but for aviation enthusiasts, the museum is a must see. It was first established in 1974, and comprises three substantial hangars packed full of display aircraft and memorabilia, fully justifying its position as the National Aviation Museum of Malta.

Frederik, my guide there, had an encyclopaedic knowledge of all the exhibits. He explained that with the collection having grown to fill three hangars, extensive links now exist with UK air museums and restoration groups worldwide. These links pool specialist information and knowledge.

The list of aircraft present on site is far too long for this short article but I am compelled to mention a few of the more interesting exhibits in the hope that there may be within our HCAP Membership,

some further links to this fascinating location.

Supermarine Spitfire Mk 9 EN199 was originally presented by the RAF to the Malta Air Scouts in May 1947, but the early storage facilities were not strong enough to prevent souvenir hunters. The vandalised wreckage was collected in 1974. But the task of renovation proved beyond the capabilities of members at that time. In 1992 a project team set about re-building the Spitfire to static display standards; this task took two and a half years, and used parts collected from the sea bed around the island, manufactured parts made locally, and donated and renovated parts.

Alongside the Spitfire in the same hangar is **Hawker Hurricane Mk11A. Z3055** was built in 1941, and was one of a group of 44 flown off HMS Ark Royal in May 1941. Barely a month later, in July 4th 1941, the aeroplane was ditched, after an engine seizure due to fire; the pilot was lost. The wreckage was found again in 1995 on the sea bed at a depth of 40 metres. This aeroplane has now been restored to taxiing condition. The salvage work started in September 1995 and was finally completed ten years later.

Completing the line up in the Air Battle of Malta hangar is a **de Havilland DN82A Tiger Moth. (G-ANFW)** An airworthy fuselage had been bought but



Meteor NF11



Piper L4 Cub



Scrapyard



Spitfire

the wings needed replacement. The aeroplane was dismantled, re-skinned, re-built, and first flown again in September 2010 at Luqa.

At the rear of this memorial hangar are the skeletal remains of **Fairy Swordfish HS491**. This is one of the rarest WW2 aircraft, and it represents a long term future project. The parts were purchased from Canada, after a major donation, and arrived in Malta in September 2004. Specialist help is going to be needed to bring the Swordfish back to life.

Gloster Meteor F8 WF714: this has been acquired by one of the Museum's biggest benefactors David Doulton, who served with at RAF Ta'Qali with 600 Squadron. It arrived by trailer direct from the UK in May 2011.

Gloster Meteor NF14T WS774: was gifted to the Museum by four donors and arrived in a dismantled state from the UK in December 2006. A Night Fighter Trainer version is displayed.

Gloster Meteor T7 WL360: arrived at the Museum in 2006 and is undergoing restoration and so is not currently on display. This is the 2 seat trainer version.

English Electric Lightning F2A XN769: This exhibit comprises the entire nose section, and front undercarriage and cockpit. It is in the red and yellow colours of 92 Squadron to represent the Maltese fighter pilot Flight



Vampire



Swordfish remains

Lieutenant Mark Eynaud who flew the type with the RAF in Germany.

BAC 1-11 Cockpit Section. This was acquired in May 2006 from Medavia. Constructor number 202 was first registered as Court Airlines G-AXMH, then as G-BDAS and G-OBWB, finally ending up in Nigeria as 5N-BBP. A short-haul airliner which entered service after the French Sud Caravelle. The later entry date gave the 1-11 an advantage with greatly improved engine fuel economy and reduced operating costs. This is a sentimental aeroplane for me as for eight months in the early 70's, I used to take the first British Caledonian flight from Gatwick to Glasgow on a Monday morning returning on Friday evening.

De Havilland Vampire T11 WZ550 was bought by the Malta Aviation Society and arrived by container in October 1996. It was donated to the Museum from funds generated by the Malta International Air Show. In the



Sea Hawk



Texan

summer of 2000, the aircraft was overhauled and re-sprayed by Museum members and now wears the colours of a Royal Naval Air Station Hal Far (HMS Falcon) based 750 Fleet Air Arm Squadron T22 trainer.

In 1999 the Malta Aviation Foundation acquired Hawker Sea Hawk FGA.6 WV826, and it reflects the long and historical links with the Fleet Air Arm in the post war years. WV826 has been painted to represent a No.804 Squadron FGA 6 aircraft coded 161 of the Suez Crisis period, hence the black and yellow identification stripes.

Current restoration projects include the display standard Rolls Royce Griffin engine, mounted on its homebuilt engine stand. Final painting is now complete. This is a shiny example of the type and is splendid.

There are plans to put together another towing tractor from the collection of rusty parts resting behind the hangars. There I also found two Handley Page Hastings cockpit sections, resting side by side in the Maltese heat. All the paintwork is long gone, but just the distinctive shape of the cockpits remain from this post-war, tail-dragger, RAF transport aeroplane. A sad graveyard for these once proud aircraft.

My sincere thanks again go to Frederik my guide who bought the museum exhibits to life for me on this visit. To convey HCAP links with the Museum, it would be good to see a HCAP shield in their trophy collection. Perhaps in the future, and with continued visits from HCAP Members, we might even consider a donation to encourage their continuance of local aeronautical restoration activities.

A Visit to Martin-Baker Aircraft

By Liveryman Alan Jackson

A party of thirty members of the Honourable Company was doubly privileged on 13th August. We were treated like royalty on our visit to Martin-Baker Aircraft; and among our number were three members whose lives had been saved by Martin-Baker ejection seats. At the time of our visit, theirs were among the 7,615 lives saved by the company's seats to date. In reflective mood, our host, joint managing director James Martin, reported that the first person to eject successfully in an emergency, Jo Lancaster from an AW-52, had died a few days before our visit, aged 100. We noted that thanks to his seat, he had lived 70 years longer than would otherwise have been the case.

We received an introductory briefing from Steve Roberts, head of business development. This included some spectacular ejection footage, which emphasised that 'ejection is all about the parachute'. Remarkable engineering enables parachute deployment in significantly less than one second from seat activation. This allows most seats still in service to be used, inverted, as low as 180 feet above ground level; in addition, of course, to the zero/zero capability of many of them when the right way up!

Martin-Baker Aircraft was established in 1934 by Sir James Martin (engineer, inventor, and father of the current joint-MDs), and pilot Captain Valentine Baker, assisted by financier Francis Francis. Until 1945 the company made aircraft, including the MB2, MB3 and MB5 fighters. All of these flew, but none proceeded into production. Baker was

killed in 1942 while testing the MB3 prototype; its engine failed, and the aircraft cartwheeled after striking a tree stump in the ensuing forced landing.

Much affected by Baker's death, and following an invitation from the Air Ministry to look at means of escape for fighter pilots, Sir James dedicated himself and the company to pilot safety, and ejection seat design became the company's focus. The first successful airborne test ejection was made at 320 knots and 8,000 feet altitude by Bernard Lynch, from a modified Meteor F3, in 1946. Lynch went on to conduct a further 30 ejection tests. While the company still uses two Meteors for seat testing, mannequins have been used instead of humans since 1963.

The company has grown substantially since then. It has a worldwide market share of 51%, and has manufactured over 70,000 seats, with more than 17,000 remaining in service in 54 countries. From these numbers one may deduce that significantly more than 10% of all seats sold may be expected to save lives. The Vietnam War was a high point for seat use; eleven lives were saved in one day in 1969; and of the total lives saved to date, 2,400 involved ejections from McDonnell Douglas F-4 Phantoms.

At Denham the company has a 22-acre site, with more than 500,000 square feet of manufacturing space. There is additional space at the company's test airfield at Chalgrove, and its 6,200-foot rocket test track is at Crumlin in Northern Ireland. The group has a presence in the United States, and

elsewhere around the world. In addition to ejection seats, it manufactures crashworthy seats for helicopters and fixed-wing aircraft. All current ejection seat designs are type-specific.

A very important achievement for the company in recent years was winning the ejection seat contract for the Lockheed Martin F-35 fighter, with the US16E seat. This seat's operational speed range is from minus 30 knots (presumably just the F-35B!) to 600 knots. In the case of the F-35B with the lift-fan in use, a fan failure results in automatic ejection; pilot reaction times would otherwise result in an unrecoverable and inevitably fatal pitch down beyond ninety degrees. This feature is active at speeds between zero and 240 knots. The seat is capable, without adjustment, of accommodating pilots weighing between 57.6 and 135.6 kilos, uses an integrated harness, and has head and neck support to protect ejectees from the g-loaded weight of today's complex helmets. Beyond F-35, the company is now working on projects related to sixth generation fighters. Auto-eject capabilities in future may include the monitoring of physiological signs to initiate ejection.

A tour of the factory, museum (with example seats from the 'pre-mark 1' onwards) and engineering facilities followed, in three groups, each with two guides. We noted the extensive experience apparent in many of the staff, and were pleased to hear that the company has a thriving apprenticeship scheme. We were introduced to the company's design capabilities and processes, including the use of computational fluid dynamics modelling, simulation tools, 3-D computer-aided design, and physical wind-tunnel testing.

Not many 2 ship Meteor formations these days!





Cockpit design advice for customers features among the company's services.

Following an excellent buffet lunch, we were taken by coach to the company airfield at Chalgrove. There, in the sunshine, the company's two Meteors (of a total of eight or nine used by the company over the years) awaited us. We had a briefing about the aircraft operated by the company from its chief pilot, Andy Gent. The aircraft include two Beechcraft King Airs, extensively used in Europe including trips to the Crumlin location. Andy described the process of moving the Meteors from the military to the civil register, involving both the CAA and the MAA, to permit continued use of the aircraft for their *raison d'être*, ejection seat trials. While this process was ultimately successful, we may all give thanks that we did not have to be involved.

Andy and John Hurrell (from BAE Systems) then treated us to a magical display of the two Meteors. Your scribe could not remember the last time he had seen two Meteors airborne together, and he was certainly not alone in that. After the display there were photographs in front of the jets, including of our three ejectees, who were presented with gifts from the company. By coach back to Denham, where there were mementoes for the whole party, and very grateful farewells to our hosts and guides. A most memorable day, and many thanks to Chris Ford for organising it.

Ejection Stories by members on this visit

1. Richard Lotinga - Ejectee No 3246

On the 1st December 1981 I was a Flight Lieutenant on Standards Squadron at RAF Brawdy in South-West Wales. I was conducting a Give Back Dual in a Hunter T7 on a 79 Squadron Instructor, which essentially was testing his ability to instruct a student on low flying and navigation.

All had gone well for 50 minutes of low level flying when we 'broke' into the circuit at RAF Brawdy, aiming to land on runway 15. I was flying the T7 and turned downwind with flap and gear being lowered. I gave a handful of power to the throttle but ignored the power setting until I was assured of a 'sticky' undercarriage being lowered. I looked at the power gauge and thought, that's not right and pushed the throttle further forward to gain more power but to no avail. We were already in the turn to finals but I realised that without any power we were not going to make the runway. I announced to ATC 'Tower, we have a problem'. We rolled out at about 90 degrees to the runway and tried to kickstart the engine by switching on the emergency booster pump but all that did was to put the engine into reheat for 2 seconds, which since the engine wasn't equipped with reheat burnt out the back end. I remember looking up to the instruments and seeing the engine RPM rocket up then slump back, looked up at the rapidly approaching Welsh countryside and said 'Let's get out of here'. My compatriot saw my seat disappear and agreed that was a good idea and pulled his handle.

I pulled the handle at about 150 feet, very late. Up to now everything was in normal 'movie' time but now I go into picture mode. Bang and the canopy disappears – Blue Sky (I'm lying on my back looking at the sky as the drogue chute deploys) – Big explosion right in front of me, orange, white and red fire (I'm now almost face down as the main chute deploys and at that moment the jet hits the ground) – jerk as I am in the fully deployed chute. Now back into movie time. I look up at the fully developed chute, down to the rapidly approaching ground and recognise a left rear landing. Have just enough time to get into the correct posture and I hit the ground, roll

and I'm on my back with the chute falling around me. I had 3 seconds in the chute. I activate the Quick Release and roll over out of the harness and then feel the pain, oh boy does my back hurt. I crushed two vertebrae and lose about 5mm in height. Hey, I don't care, I'm alive. Thank you Martin Baker.

I looked for my compatriot and I see him standing up about 200 yds away. As it turns out his chute opened as he hit the ground and as there is a ballooning effect as the chute opens he landed like a feather standing upright. Half a second later...

I can hear the fire engines and the SAR helo racing to get to us and the helo wins. Strapped onto a stretcher and taken to Withybush Hospital at Haverfordwest and then eventually to Wroughton Hospital near Swindon for a total of 3 weeks in bed. Let out on the 22nd December and told not to lift anything for 3 months. I got married on the 16th January and my bride carried the suitcase and I her handbag to our honeymoon in Paris. The French taxi drivers could not work it out.

Thank you again Martin Baker.

2. Mike Beech

25 Aug 1981, RAF Gutersloh (Germany), 3(F) Sqn, Harrier GR3, XZ139 (it had my name painted on it). Second flight of the day at about midday was to complete a post major servicing air test, then join up with 3 other aircraft for some low level 2v2 combat; my squadron commander was to lead me attacking the 2 other aircraft.

The air test went well and 15 mins after t/o we were at 500ft and 480 kts starting an attack on our targets. Suddenly, my aircraft felt as if it had flown into a thermal and gained some lift then – wham – the aircraft pitched violently upwards and flick rolled several times in both directions. It was quite a scary event! However, although completely out of control, I could see I was going upwards so decided to stay with it and try to regain control.

Unfortunately, I was being thrown around so violently I couldn't read any of the instruments, not even the head up display. The gauges I really wanted to read – nozzles, flaps and tailplane position

indicators – were only the size of a 20p piece, so no chance of seeing those.

Things had calmed down a little now. The control column was useless so I set about moving the nozzles and flaps all with no apparent affect to my flightpath. I had reached about 2000ft and was now in a low speed stall with deep wing rock(+/- 60 degrees AOB) but not nearly as violent as my initial high speed stall. I heard the other pilots in the formation transmitting things like “ what’s Benchers doing up there?” and “looks out of control to me” but was still preoccupied in regaining control.

As the drag overcame momentum I now started descending it at an increasingly rapid rate. Then, my Sqn Cdr’s voice broke my concentration as he was screaming over the radio “Eject. Eject. Get out Mike.” I suddenly realised that I was now closer to the ground than I had thought and going down very rapidly: time to go, and quickly.

I kept my right hand pushing the stick fully forward and pulled the ejection seat handle with my left hand. Bang. Although it only takes a couple of seconds from initiating ejection to being in your chute I can affirm that time dilation exists. I remember being clear of my aircraft, still strapped in my seat and watching the ground very close and coming up quickly – “damn. Left it too late” I thought and then another mighty tug and I was in my chute.

I watched my aircraft crash just ahead of me and then quickly released my survival pack to reduce the chances of injury on landing. I could see I was going to land in the corner of a ploughed field , just missing some tall trees. I prepared for a “back left landing” but there was no wind so landed like a sack of potatoes after just a few seconds in my chute.

I just sat there for a couple of seconds thinking “well that was exciting – 30 seconds ago I was flying a Harrier now I’m sitting in a field in Germany.” Hilarity set in and I thought I should do what my boyhood reading had taught me – bury your chute and start running!

The 3 other aircraft in my formation were circling my crash site and I was the second RAF pilot able to transmit up to them on my locator beacon that I was OK. However, still heavy with fuel, my crash resulted in a massive fireball (with

so little time for my parachute landing I didn’t see it) which attracted every military fighter for 50 miles around. I was so concerned there would be a mid-air collision above me I asked them to RTB.

A Puma of 230 Sqn picked me up, flew me to the base hospital. There I was given the all clear by the docs, so I was back in the bar by 2130 hrs for a few beers and a happy reunion with my Squadron.

The cause of my crash was determined very early the next day: the control rod to the tailplane had become disconnected from the stick – the last input from me had been nose up so the PFCU ran away to full nose up deflection – fortunately.

Now in the clear and medically fit I asked the Boss if I could go flying. “Go on then...” he replied, most generously in my opinion! So, just over 24hours after ejecting I was airborne again in a Harrier GR3 – one that did not have my name on it this time – and I got back for lunch.

I must add that only my complete confidence in my ejection seat allowed me to try and recover from a catastrophic situation. Only excellence engenders such confidence. So thank you very much to all at Martin Baker for another 38 years of life and over 20,000 flying hours.

3. David Gladwin

My ejection was on my first flight on the JP 4, after flying the Mk 3 on the first half of my wings course at 6 FTS Acklington. At the top of a loop the fire warning light and clangers activated, it was not a drill. My QFI took control, carried out the fire drill to no avail. The fire light remained on, there was a strong smell in the cockpit and he ordered me to eject.

Pulling the face screen, I heard the canopy go and after what seemed an eternity, less than 1 second, the seat fired, 14,700 feet, 120 knots. Freefall in the seat, into cloud, all sense of time lost. So, just as about to do a manual separation, the chute deployed with a terrific bang and the seat fell away.

As it opened a tear had developed in the chute which began spinning and I was able to release only one clip on my PSP, so the spinning became worse without the stabilisation of a lowered PSP. Expecting the parachute to candle because of the tear, I was angry , very

angry – my training , and me, looked like they were going to end prematurely. However the chute stayed full and I hit the soft ground hard, next to a very surprised cow, but almost none the worse for wear (although on subsequent flights I was VERY careful on placing my harness straps) !

The jet crashed in the only farmyard for miles around, without injuries, and did not burn, the fire warning was, in fact, false due, I believe, to moisture in the sensors.



Three chaps who have a lot for which to thank Martin Baker!



Richard Lotinga's rather important seat handle

Britain (and the Air Pilots) at its best

By Liveryman Stephen Slater

One of the privileges of being a member of the Honourable Company is the opportunity to experience some of the unique traditions of the City of London. The recent visit to the Tower of London to witness the Ceremony of the Keys was a typical example – demonstrating both the Air Pilots' and British tradition at its best.

As with every Air Pilots event, it offered an opportunity to meet with fellow flyers, catch up with old friends and new, with the added incentive of a chance to visit England's oldest 'working' castle. The Tower of London was established by William the Conqueror in 1078, with original buildings such as the famous White Tower forming the core of concentric so-called wards, built during the reign of Kings Richard I and Edward I. The general layout has remained the same since Edward I completed his final rebuild in 1285.

The oversight of these wards is of course the responsibility of the 37 Yeoman Warders who, under the command of the Chief Warder are the ceremonial guardians of the Tower of London. All Yeoman Warders are retired members of the armed services and to be appointed, one must be "a former Warrant Officer, class 1 or 2, or in exceptional circumstances, a Staff Sergeant", must have earned the Long Service and Good Conduct Medal, and must have served for 22 years in the regular armed services. The 46 members and guests of the Air Pilots were the guests of the Yeoman Warders for the evening, hosted by Warder Spike Abbott who became a Yeoman after 35 years' RAF service culminating in serving as Master Aircrew on VC-10s, C-17 Globemaster and C-130 Hercules. Spike's selection as host could not have been more appropriate as he had served on 70 Sqn under the command of Past Master Chris Ford, who was one of the guests, as were fellow Past Master Chris Spurrier, and our Master and his wife, Malcolm and Vanessa White.

Spike guided us on a tour of the Tower's key buildings including Traitor's Gate, the Queens House and Beauchamp Tower and its history from Norman to Tudor

times, including the execution of Queens Anne Boleyn, Catherine Howard and Lady Jane Grey, within the walls on Tower Green during that bloody era of English history. Spike's encyclopaedic knowledge is based on an intensive six-month training course and comprehensive examination that every Yeoman Warder must complete before donning the famous 'Beefeater' uniform for the first time.

Following the tour of the wards, blessed with late-evening sunshine, the Air Pilot guests were invited to partake of refreshment in The Keys, the Yeoman Warders' private club located within the Tower walls. Established in 1483, it is apparently the oldest private drinking club in the world! As with all Air Pilots 'socials', the atmosphere was convivial and fun, culminating in our Master presenting Spike with a commemorative Air Pilots plaque, to add to those decorating its walls.

The keys reference of course, points to the focal point of the evening's visit; the opportunity to witness the Ceremony of the Keys, held every evening at the Tower of London when the main gates are locked for the night. Dating from the 14th Century, it is said to be the oldest military ceremony in the world and certainly the only one to have been observed without a break. It has only been delayed once, due to enemy action at the height of the Blitz on eastern London in 1940, but still went ahead once bombing ceased.

To be a close witness to such a historic ceremony is a true privilege. We stood by Traitors Gate in the dusk as at 9.53pm precisely, as the Chief Yeoman Warder, dressed in Tudor watchcoat and bonnet, and carrying a candle lantern donated by the Honourable Artillery Company marched with the Escort to the Keys, on our visit carried out by a detachment of the Scots Guards, down Water Lane to the Bloody Tower archway in front of us, where the sentry challenged the party to identify themselves with the immortal words: "Halt! Who comes there?". "The keys". "Whose keys?". "Queen Elizabeth's keys". "Pass Queen Elizabeth's Keys. All's well".



We were then ushered to follow the Escort to the foot of Broadwalk Steps where the main Tower Guard was drawn up to meet them, then as the clock of the Waterloo Barracks struck 10pm, the Last Post was sounded. I'd defy any of our party not to have goosebumps.

Following the ceremony, further refreshments were offered at The Keys, although many with longer distances to travel chose to leave forthwith. I am delighted to confirm all Air Pilots were able to escape and to our knowledge at least, none remained incarcerated in the Tower!

Master's Garden Party

By Past Master Chris Hodgkinson

I suspect most of the record number of attendees – 146 members & guests – set out on the Sunday to Biggin Hill more in hope than expectation for a fine flying day, since the morning rains did not bode well. The good news was that not all was doom and gloom by any means since the rain cleared and it wasn't even muddy underfoot. The most difficult thing to accomplish all day was to find the correct VIP entrance through a golf course.

Those who attended the Garden Party at North Weald in 2001 will well recall the ghastly weather partially relieved by the sight of a Vulcan in formation with Concorde going in and out of the 700ft

broken cloud base. The Concorde Captain on that day recently confirmed to me that he was VMC at all times.

Congratulations must go to the caterers since we were all well fed and watered. My personal thanks to all of you who responded to my request for photos, a selection of which appear below.

It must have been a good day since one of our guests (wife of an 'anorak' who was not sure about aviation events) said how much she had enjoyed the occasion. Special thanks from all of us are due to Liveryman Graham Powell for his successful organisation.



North American OV-10 Bronco



D Day Aircraft – Spitfire, P51 Mustang, P47 Thunderbolt and Messerschmitt Bf-109



*Tigers (and one Moth Major DH60) forming with a BA 747-400?
Or other way round?*



AeroSuperBatics Wingwalkers - based in Cirencester



Typhoon



Tiger Crossover



'Dak' - One of 13,000 DC3/C47s ever built



Avro Lancaster



*The Tiger 9 – 8 Tiger Moth DH82A and the one Moth Major (can you spot it?)
(Photos of the Tiger Diamond Nine courtesy of Howard Cherry)*

Oshkosh EAA AirVenture 2019 - a personal view

by Assistant Richie Piper

This year represented my first experience of what the aviation world simply knows as “Oshkosh”. This is the massive event combining an air show, fly-in, workshops, forums and exhibitions for a whole week at Wittman Field, where the Experimental Aircraft Association (EAA) owns a significant estate including Pioneer Airport adjacent to Wittman regional airport. The EAA simply describe it as the World’s Greatest Aviation Celebration! I was invited to join with Past Master Chris Hodgkinson (who had been before some years before), Liveryman Peter Benmax and his son. Peter makes globes with moving miniature aircraft and kindly made one for our new offices at Air Pilots House. He was also attending for the first time and keen to source more aircraft lapel pins for further projects.

We were given good advice by Past Master John Hutchinson who has attended the event several times before, the most recent being last year. His tips greatly aided the enjoyment of the group,

especially relating to ensuring comfort with the hot conditions. Liveryman Stephen Bridgwater, who also has been attending for many years as a journalist, also added his experience and kindly provided guidance during the week.

This year the EAA were marking the 50 year celebration of the event (even though the first fly-in occurred in 1953), and AirVenture also marked the 50th anniversary of Apollo 11, the 747 and Concorde – how many remember how special 1969 was for aviation? The metrics associated with the event give you an idea of the scale: 5,500 volunteers, over 12,000 aircraft flying in including 2,700 show aircraft, nearly 900 exhibitors and an attendance of 642,000 people. Of the aircraft flying in, there were 1,057 homebuilds, 939 vintage aircraft, 400 warbirds, 188 ultralights/light sports and 105 seaplanes.

This year’s event was heavily compromised by storms on the first Friday and Saturday, closing the airport

on Sunday morning and meaning camping grounds and aircraft parking areas were flooded and unavailable for use. Many aircraft delayed their arrival accordingly but some made it in, dodging the bands of thunderstorms. This meant aircraft could not park on the grass, and motorhomes could not move onto the camping grounds. On the Saturday evening, the EAA encouraged campers to shelter in the museum overnight, such was the severity of the storms. This meant the organisers had a massive additional workload getting things into position from the Monday onwards.

The actual event does not formally start until the Monday but many go to watch the arrivals over the first weekend. The arrivals procedure basically funnels arriving aircraft down a specified VFR route with clear visual turning points. There are ATC positions miles from the airport on the designated route monitoring traffic and giving aircraft their arrival clearance and tower frequency. This can also include holding



instructions at peak times. All this is detailed in a massive NOTAM supplemented by webinars to explain it all in detail. A number of aircraft type groups also schedule mass arrivals, having gathered at nearby airports.

Due to the volume of aircraft movements, transmissions are only by ATC normally with pilots acknowledging instructions by rocking their wings (there was even a beer brewed for the 50th anniversary called "Rock Your Wings"). The length of the runway means there are four touchdown zones (three on the cross runway) marked by large coloured circles (blue, pink, yellow and purple) painted on the main two 8,000 feet parallel runways. The landing clearance is to touch down on your nominated colour (or is that color?) circle with aircraft landing in front and behind you - it is important to keep up your speed on rollout! Descent is initiated earlier than normal and turns onto final are normally at only a few hundred feet. And all the whilst this is going on, pleasure flights are taking place in multiple Bell 47s and Ford Trimotors! Another of the statistics was that 3,051

people flew in the Ford Trimotors and 3,173 flew in the Bell 47s over the course of the week.

The opportunity to wander around the site whilst the exhibitors are still setting up allows you get a feel for the layout as well as watch the arrivals. However, you need to be ready to follow instructions from the volunteers, as an arriving aircraft may well be about to taxi through the grass you are standing on to get their parking area, usually with two scooters riding escort. It is hard to believe this is America with their culture of litigation but everyone follows the marshals' advice and it works well. There isn't even a rope to separate you from the active runway during normal operations or even the air show, just a line burned into the grass, which if you should even step on it, a marshal will politely but firmly tell you to step back. The same relaxed routine applies even when warbirds are about to start and taxi, the volunteers simply creating a virtual barrier for people to keep behind, and we are talking 20 feet typically. And it works, hundreds of thousands of people observe the rules so they can experience this spectacular

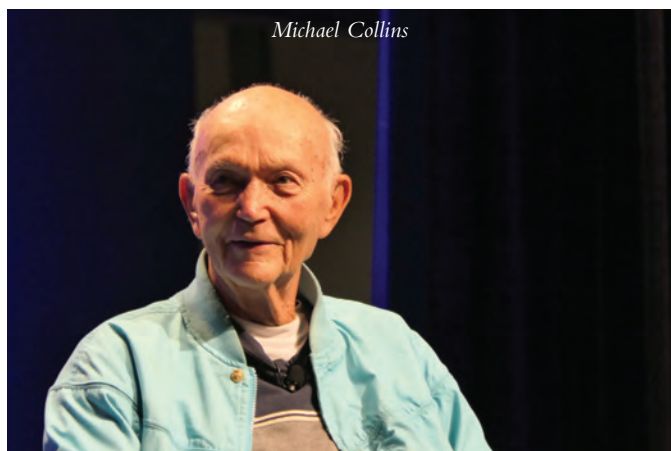
event close at hand.

Every afternoon there is an air show and on Wednesday evening there is a night-time show, which is not just at dusk, but extends well into the evening's darkness. This involves display aircraft with smoke, flares, rockets, bright lights and LED strips performing aerobatics. This year there was even a jet truck which was buzzed by a Mig 17 below 50 ft before the closing fireworks display.

The actual display flying splits essentially into warbirds, aerobatics and homebuilt parade passes. Particularly in terms of warbirds, you should think volume rather than spectacular or graceful routines. There often will be three formations of T6s, T28s and T34s doing passes at different heights and directions to start the warbird section. When they launched 18, yes 18, P51s it saw three formations passing above the crowd whilst a simple tailchase occurred over the runway. Pyros featured with some aircraft such as the A10s and B25s, to simulate an attack. It was perhaps the P82 (Twin Mustang) that got closest to the sort of flying display we enjoy in the UK. It was interesting to note that although there was a massive



Col Bud Anderson



Michael Collins



Lady wearing her mother's uniform from 50 years ago in tribute

sterile area in front of the crowd, there was much flying over the crowd by military, warbird and civilian aircraft whilst all the time pleasure flights in the Bell 47s continued. Apparently the rule is as long as you are above 1000ft, you can do what you want over the crowd.

In terms of the aerobatics displays they ranged from the crazy, jet assisted biplanes and a twin Yak 110 (two Yak 52s joined together), also augmented with a jet engine, through more extreme aerobatics from Extras and their like, to the more basic figures from Bonanzas and RVs. Surprisingly the EAA does not fully showcase the exotic warbirds which are allowed perhaps 2 or 3 passes, whilst the homebuilts and trainers go on much longer, with many more passes. This is further compounded by the air to air photo missions being launched without displaying for the crowd such as the Mosquito. However the military-supported American Heritage Flight, comprising F-22, A-10, Mustang and Spitfire, launched for such a photo sortie on the Monday evening and came back having collected two F-35s. An F-22 and F-35, then tried to outdo each other in the circuit for 20 glorious minutes, as the breaks to crosswind became more and more dynamic, eventually throwing it round 140 degrees and appearing to hang in the air, staggering away on afterburner. The F-22 of course won.



DH60 Gipsy Moth

Throughout the day there are thousands of workshops and forums going on where you can learn welding, riveting, fabric covering and painting techniques, electrical wiring and countless other skills to build your own aircraft. There are even stations near the museum for children to try their hand at these skills under supervision. I saw one group of youngsters rivet an aluminium plate with an EAA wing pin in the middle with pneumatic tools.

The Theatre in the Woods is the main presentation venue and provided some of the top speakers. Burt and Dick (when he could get a word in!) Rutan spoke of their career as “homebuilders in Mojave” and Burt’s philosophy for running a business. The top two principles were fun for the employees, and fun for their families. Profit came third. His two companies, Rutan Aircraft Factory and Scaled Composites, created 389 initial designs and nearly a hundred that took to the air, 49 of those aircraft had their debut at Oshkosh. He also lamented the state of space exploration stating there were only 5 US manned space launches in 2004 and three of them were his!

One of my highlights (and eagerly anticipated in advance) was to meet and listen to the two astronauts Michael Collins and Joe Engle, with Mike being famous as the Third Man in Apollo 11. Whilst the session at the press centre was informative, their public appearance on stage was a great double act, very amusing and skilfully led by Shuttle astronaut Charlie Precourt, as they recalled their careers and the moon mission. You can view it yourself at <https://www.youtube.com/watch?v=IYUmdeVYCQ4&t=759s> which also includes a session on the Lunar Module and the premiere of reprocessed original film of walking on the moon plus a multi-modal video of the landing.

You can also find briefing areas in the Warbird and Vintage sections, which have open tiered seating. By the open area in front of the seats, aircraft are wheeled in for the talks. It was fascinating to hear Col Bud Anderson talk about multiple WW2 combats in the P51 with current Mustang pilots. I also listened to T28 pilots talk about flying their aircraft, making me nostalgic about when I used to own one.

There are many varieties of food outlets and with the high temperatures, there are free water stations to top up your bottles. Due to the size of the site, there is a system of trams to save the wear on your feet. These trams consist of a small tractor towing a covered trailer with seats, and a conductor sitting on the back to ensure all seats are filled and ensure safe operation. There are four main routes with signed stops along the course. In addition to this, there are school buses running to the campsites and the EAA museum. All this is free. There is also a bus service to the seaplane base on Lake Winnebago which costs £3 dollars for the round trip.

Past Master John Hutchinson recommended the Aviators Club, which is on the flight line and provides an air conditioned haven. In there you can sit at circular tables and consume the inclusive soft drinks, breakfasts and lunches (plus dinner for the Wednesday night air show) and even ice creams. There are always interesting people to meet and compare notes with at the tables. It is not cheap to enter at \$100/day but it will help enable you survive the week. You can also ask security (volunteers of course) if they can call for a golf cart to give you a lift somewhere. I even got a lift from the Head of EAA Events to the press centre. Everything is on the main site (including some seaplanes, particularly the larger Grummans and the Republic Seabees), but the seaplane base is a tranquil oasis you should not miss. Via a narrow gap from Lake Winnebago three arms of water provide a haven for seaplanes to moor. The range of aircraft include Cubs, Huskies, Cessnas, SeaReys and even the occasional Beaver and Caravan. The colour of each mooring buoy indicates the holding of the ground tackle and therefore what size of aircraft can be moored. In previous years when strong winds have turned aircraft over at the main site, the mooring line secured around the prop boss ensured no seaplanes were damaged. There is even a valet-style service to take aircraft out to the moorings, towed out by small boats with two arms that attach to each float. I recommend taking a pontoon boat tour around the moored aircraft as well as watching take-offs and landings on Lake

Winnebago.

Towards the Interstate 41 South there is a microlight strip at an angle to the main runway where various kit aircraft perform demonstrations, and in the evening there is a short take-off and landing competition for bush aircraft. In addition, the paramotors fly early each morning and evening in this area. It is also here the balloons launch on the final Saturday.

The EAA operates a number of aircraft for joyrides. Onsite you can take the Ford Trimotor from the warbird area. This flight last around 15 minutes and overflies the seaplane base. The price varies throughout the week but is around \$78. If you purchase your ticket before 8:30am, there is a \$10 reduction. I was lucky as I was pulled out of the queue for the next flight, as they needed a single additional passenger. The Bell 47 flights operate for the EAA museum area from Pioneer Airfield. The flight is only 5 minutes for \$49 but takes in most of the AirVenture site. For around \$450 you can get a ride in the B17 Aluminium Overcast. This operates from Appleton airport so it involves a bus. The flight is

around 25 minutes and overflies the show site above the traffic pattern. Outside the show period, the B17 tours the country selling rides to support its upkeep.

There an extensive vintage area and you will be overwhelmed by the variety of delectable aircraft on show. Like the Howard DGA? There will be 6 parked together. Is the Waco your fancy? Even more of them. There were also several Spartan Executives, with one in an extreme state of bare metal polish with RAF markings - gorgeous. As a De Havilland Moth owner, I could only find one example but it was a superb Gipsy Moth recently restored over a 5 year period after being collected in bits from Canada. There was a host of Pietenpol Air Campers including a number with Ford A motors, the radiator totally blocking the pilot's view ahead!

There were also some very rare and exotic aircraft including the three engine Stinson Model A, which, viewing its side profile, seemed to be made of several aircraft, with top braced wings and forward sloping windscreen giving the appearance of a ship's bridge. Its immaculate blue colour scheme looked

superb after a very extensive restoration. This included making a new jig to replace the badly corroded fuselage frames after hard service in Australia, as the type migrated there having lost out to the DC2s and Boeing 247s on passenger routes in the USA.

And don't think it is just small aircraft on show. In addition to the B17 and B29, there were various aircraft that flew in and parked up for a few days. These ranged from the 747 800F cargoliner to the C5 Galaxy (a small brake fire on landing was eventually extinguished), Hercules, P3 Orion used for weather chasing, Dreamliner and F15.

Then there were the weird and unique, with many of the Rutan designs, many hundreds of Vans RVs, ranging to the more esoteric, such as the Dykes Deltas, of which we found five examples. As Chris mentions, there was even a Japanese jet-powered flying wing, steered by weight shift by the intrepid designer/pilot laying across the top!

With entrance for the week costing \$120 plus EAA membership at a discounted \$30 for the year (a member can buy two entry passes), the event is exceptional



Seaplane Base

Seaplane Base from the Ford Trimotor



One of many large formations



Volunteer marshal "broom-assisted" scooter

value and justifies its claim to be the World's Greatest Aviation Celebration. I, like everyone else who has been, was not disappointed and it exceeded my expectations. It is said, once you have been, it becomes the standard to judge everything else against. Hopefully this has given you a taste and will encourage you to see for yourself.

Want to go to Oshkosh?

How to get there

The EAA AirVenture at Oshkosh takes place in July each year. Unless you are flying yourself to the event direct, most people from the UK fly to Chicago O'Hare and then drive the 165 miles north to Oshkosh, which depending on traffic will be around 3 hours. There is a coach service twice a day during the show.

The event officially starts on the Monday and runs through to the following Saturday. However, the arrivals during the first weekend are worth considering.

Accommodation

Many places are booked up year after year and the few hotels put up their prices accordingly. Therefore there are three main options: the University, house rental and camping. Many first timers use the University of Wisconsin Gruenhagen Conference centre accommodation. They rent out the student accommodation and there is also massive student cafeteria for breakfast. There are also a few bars nearby in the evening but we can only really

recommend Mahoney's. Events continue in the evening at AirVenture such as the presentations at the Theatre in the Woods and many food outlets stay open in the evening. A regular shuttle bus service runs to and from the EAA site taking around 20 minutes (but more than twice that at busy periods), and continues to 2300 but runs less frequently and takes a longer route in the evenings.

At the show

There are online EAA resources and an app you can download to plan where you want to go. The schedule for the air show often bears no relation to what happens but some performers share the actual flypro on social media. The morning sees many aircraft taking off from 0700 to go for local flights and includes big formations of T6s, etc. The airshow each afternoon starts around 1400 most days. The 1,500 workshops are mainly in the morning to avoid competing with the sound of the show aircraft. EAA produces a newspaper in mini-tabloid form each day which is handed out free (including at the University accommodation) to keep you informed. Friday sees the free International dinner taking place which is barbecue style with wine and beer included. Make sure you sign up at the International tent, it also helps them record how many overseas visitors have attended.

Survival

It is usually pretty hot and often humid so plenty of sun protection and rehydration. There are free water stations around the

site plus the usual food and drink outlets. The few places selling alcohol can only sell it after 1700. There can be mosquito activity at dusk and there may be a few days of rain, so a disposable poncho can be handy. As mentioned in the article, you can buy tickets for the Aviators Club which is air-conditioned, and the international centre behind it is free and has big fans to cool you. The Lemon Chill is highly recommended – a tub of lemon sorbet. It is worth buying the tickets for the Aviators Club quite early as they get fully booked, whilst the main admission pass for the week can be bought later, and still get a \$5 discount a few months ahead.

Apollo 11 50th Anniversary

One of key experiences I planned for, as mentioned in the article, was the tribute to the Apollo 11 mission on its 50th anniversary, and meeting Michael Collins. As anyone who followed the Lunar landing in 1969 knows, it was a worldwide phenomenon watched by over 600 million people and is still considered by many as mankind's greatest achievement. Therefore, to hear from Mike Collins (many Air Pilots having already heard from Neil Armstrong and Jim Lovell at previous T&As) was eagerly anticipated. The press conference Mike did along with Joe Engle was interesting and factual, but I was not expecting the main session on the Theatre in the Woods stage to be so hilarious, with Mike and Joe providing a great double act. In case you cannot access the YouTube link referenced in the main article, I have summarised some of their stories to give you a flavour.

Both Mike and Joe aimed to become test pilots at Edwards Air Force base – “the place to be”. When Joe arrived, Mike was already there and they were scheduled to fly together for Joe's Area Orientation check-out. Joe was determined to impress and planned extensively, including setting up multiple maps on a special kneeboard. They walked out to the F104 for the check flight, Mike being ready to fire up before Joe had even strapped in! Soon after take-off, Mike offered Joe control, and not wishing pass up flying time, happily agreed. However, the kneeboard was proving rather an obstruction so he decided to take it off



NASA astronauts Charlie Precourt, Joe Engle and Michael Collins

and place it on the side console. The special kneeboard was difficult to lodge on the console and so he tried to firmly locate it by pushing it in place. Now this console included the tip tank jettison switches and BANG, the left tip tank departed! Feeling he had already failed the check out before they had got very far, he waited for Collins to ball him out – but nothing. Knowing him for years, he remarked he was probably already asleep. But what to do? Maybe he could get away with it. He thought of blowing off the right tip tank too, so it at least it was symmetrical. However, he decided to ask “Mike, did you hear that thump?”. Collins said “No” so Engle explained what he had done to which Collins replied “Oh really, well it seems to be flying OK so let’s press on with the check-out”. Joe was externally grateful that Mike covered for him.

They both spoke about their NASA selection at a time when nearly every Edwards test pilot (not following the previously famous exception of Chuck Yeager) applied, so as not to miss out. When Joe Engle had submitted his application, he was called into see

General Branch who had his application in front of him. He simply tore it up and told him, that is all. Joe didn’t know at the time he was being kept to fly the X-15 program, and three of his flights were above 50 miles thus qualifying him for his astronaut wings per the American convention for the boundary of space flight. He eventually joined the NASA program in 1966, and was slated to fly in the Apollo program but its termination saw him fly the Shuttle instead.

Joe was asked if he rolled the X-15 to which he answer “Maybe”. He explained “There was a good reason otherwise I would be in Leavenworth today”. It was his first flight in the X-15 and he described that it handled so beautifully as long as you remained within the envelope and felt like a “good fighter”. He had never flown anything so fast and so high before, and there was no guidance system to help you return. On approach to the dry lake bed, he was concerned he was going to “overshoot that sucker” so he did a sloppy slow roll to lose height whilst keeping the G low. It worked and he landed without incident.

However, he was ordered to report to

Don Sorely, Head of Fighter Ops, to confirm the reports he had rolled the X-15. He answered he had and explained the reasons why. Don Sorely said “ I would have done the same thing myself but you better go and see General Collins”.

General Collins, Head of Edwards Flight Test, said he would have done the same thing but would have to go and report General Branch.

General Branch made him wait as he was reading papers (it turned out to be the local newspaper) and said “Sit down. Did you roll it?” Engle replied “Yes I did” and explained his reasons. Branch said “Well, I would probably have done the same thing but you will have to go and see Bikle”

When he saw Paul Bikle, Director of the NASA Flight Research Center, he asked him the same thing. “Did you roll it?” “Yes” and again explained why. “I would have done the same damn thing but don’t do it again otherwise everyone will want to do it”. Thus the ban on rolling the X-15 was instituted, thwarting the other test pilots who wanted emulate him.

Mike Collins is very laid back with a



Warbird in Review



Stinson Model A



SubSonex single-seater jet



Mosquito

slower delivery when he speaks ,but there a dry sense of humour with it. When talking about NASA selection he explained “Two flight surgeons were assigned to me, and one looked in left ear and the other looked in right ear, and as they didn’t see each other, I passed!”. The also injected cold water into his ear and subjected him to all sorts of centrifuge and vibration rigs.

Among the various psychological tests were the Rorschach Ink Blot tests. Collins professed himself to be an expert at those but some of the things he saw were too rude to repeat! The final one was huge piece of white, blank paper. He said he could see “11 polar bears fornicating in a snow bank”. He thought that was mildly amusing but not the examiners and he failed selection that year. The following year he tried again and when it came to white piece of paper he carefully said he saw “His mother and his father, with his father being slightly taller than his mother”. He was successful that year and joined the NASA programme in 1963 as one of the of fourteen in Group 3, ten of whom would fly in space, but three would sadly lose their lives before they could experience a space mission.

Responding to the story as part of the banter, Joe asked “You saw 11 polar bears?” to which Collins replied “Joe, don’t sweat the detail”. In fact, in his book *Carrying the Fire* he mentions 19 Polar bears! Of all the Apollo books I have read, this is the one I would

recommend for the real inside view of the space program.

One question Mike constantly got frustrated with journalist asking (or interrogators as he calls them) “By yourself, weren’t you the loneliest man, in all the lonely history of the lonely earth, in your lonely orbit behind the lonely moon, all by your lonely self, weren’t you lonely?”. He responds with fake indignation “Oh Jesus! I was King of Columbia, it was all mine!”

People may not remember, but following the return to earth, the Apollo 11 astronauts were kept in quarantine for 21 days as the scientists were concerned that a deadly pathogen may be brought back to earth from the moon. The chief means of determining the outcome were 30 or 40 white mice in the quarantine quarters. To while away the time, Collins was reading John Steinbeck’s *Of Mice and Men*, and he concluded the success of the Apollo 11 mission ultimately depended more on the mice rather than man!

An interesting Apollo 11 footnote is that the Mission Patch, designed by Michael Collins, is the only one not to feature the crew’s names, as the crew felt it more important to honour all the NASA and industry staff who made the flight possible.

As final comment, Mike expressed his view in favour of a Mars Express approach rather than the lunar staging plan that is currently favoured. He felt the simple and clear objective set by President Kennedy to land a man on the

moon before the end of the decade provided great focus to the Apollo mission. He felt the lunar operations could potentially provide a distraction and delay to the Mars mission rather than a direct program. He did note that Neil Armstrong did favour the current approach as he believed there were other areas that needed to be researched before going to Mars.

Additional comments by Past Master Chris Hodgkinson

For many, the aviator’s version of ‘See Rome & Die’ would be visit the EAA Air Venture annual show at Oshkosh & die. Not having been for 16 years I didn’t need much persuasion when a chum suggested I join he and his son, and then Assistant Ritchie Piper joined to make the fourth. Why four, because one of the most reasonably priced and most conveniently situated places to stay is Wisconsin University, which has suites of four rooms. Make sure you get one that has a/c – we changed after a very short first night. The bus to the airfield bus terminal was a 3 minute walk and from there they have shuttles – tractor drawn wagons on set routes carry you around the airfield/flightline.

There is food at the University Canteen also 3 minutes away – hardly haute cuisine more fuel.

The Immigration building at O’Hare was a complete and utter shambles, so Ritchie, who had come via Philadelphia, beat us to the car rental. So maybe outbound via anywhere on the east coast rather than ORD and direct home? Real anoraks will find even a week too short but probably 4/5 days will suffice.



Mustang beer carrier





Some of the more quirky/interesting aircraft:



*Homebuilt Dyke Delta JD-2 1960's design
- only 50 built*



*M-02J Japanese designed and flown
weight-shift jet powered*



*Grumman J2F Duck – used by all branches of US
military & the Argentine Navy*



F22 Raptor on left & F35A – Lightning II



Peter's son Louis by 'his aircraft'



*Fairchild Republic A10 Thunderbolt "Warthog".
The most frequent performer in the air display was
somewhat surprisingly this ground attack close air
support machine which went out of production in
1984. Since Oshkosh a \$999,000,000 contract
has been signed with Boeing to rewing.*



A gaggle of P51's



*P-82 twin-engined Mustang – designed as a long-
range fighter as escort for bombing raids.
Sadly/fortunately the war ended long before
production units were available.*