Diary

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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 Master with his partner, Christina, and our principal guest, Brigadier General SA Howden, at the Trophies and Awards Banquet.
A message from your Editor...

It was largely happenstance, but this issue is very focussed on the outlook for UK military flying training. Two of the Company’s last visits of the season – reported in this issue – were to RAF Valley (home of 4 FTS), and to Middle Wallop, home of the Army Air Corps. So members lucky enough to attend these visits had some excellent presentations from those charged with leading the evolution of Air Force and Army flying training. I had already commissioned Freeman Howard Wheeldon to write an overview of the changes resulting from the new Military Flying Training System (MFTS). This heralds an era of unprecedented change from the structure with which most Company members are familiar (and Past Editor Tom Eeles has written an excellent resumé of that). Some of the infrastructure we saw at Valley is world-class; some of the changes are clearly sensible improvements. Over-arching this step change is, however, the constant sense of fiscal rectitude to the point that, at times, Great Britain is trying to squeeze a quart from a pint pot. Perhaps there is no clearer example than the vanishingly small number of airframes being procured by Ascent (the joint venture given the MFTS contract) for most stages of fixed wing training.

Retention in the UK military appears to remain a major strategic challenge. In my opinion this is largely a result of a combination of: burgeoning demand in the civil sector; less than competitive pay scales; and a series of ‘holds’ facing the typical trainee pilot, which defer the date at which he obtains a flying pay increment (and reduces his utility to the taxpayer). As Howard notes, the UK Government would do well sort out its priorities – International Defence Training is to be welcomed (as a projection of ‘soft power’ by GB), yet its resourcing should not be to the detriment of our own aircrew cadre. With the second half of 2016 revealing levels of international political uncertainty not seen for many decades, it would be good to see a more robust defence budget.

Our annual Trophies & Awards Banquet in October celebrates those who have been superbly trained, and some of the instructors that took them to that degree of professionalism. Let us hope that the training system in coming years at least matches those standards.

Paul Smiddy - Editor

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News Round Up

POLITICS REARS AN UGLY HEAD

I was recently in Cyprus, having been ferried there by Easyjet, rather than under my own steam, which would have taken about 15 flying hours. Nonetheless, Cyprus having interesting airspace (to put it mildly), I felt compelled to look at the Notams. I received a huge surprise. Greece had input a Notam informing of a military exercise over the Aegean. So far, so normal. The Turks then issued a Notam of their own insisting the Greek one was invalid since they had no jurisdiction over part of that airspace; ripostes flowed from both sides. Additionally Ankara ACC has cut its phone link with Nicosia ACC, making handovers more difficult.

Notams are difficult enough to read and digest without the distraction of having to plough through the by-product of political battles.

FAA AWARDS

Head of the Fleet Air Arm, Rear Admiral Keith Blount OBE, presented a number of prominent awards at Culdrose recently. Top of the list was the Australia Shield, presented this year to 814 Naval Air Squadron, which over the past 12 months has been deployed on no less than seven operations overseas, as well as concurrently converting onto the Merlin Mk 2. Their achievements were highlighted as the year also saw them working from four different flight decks, spread over four land bases across Europe to the Mediterranean, as well as 75% of support of Operations. Receiving the award was Commanding Officer of 814 NAS Commander Brendan Spoons and Leading Air Engineer Technician John Simpole.

SWORDFISH BIRTHDAY

The RNHF recently celebrated a special birthday. On Trafalgar day 75 years ago Fairey Swordfish W5856 took her maiden flight with the Royal Navy Historic Flight. W5856 is the oldest surviving flying Fairey Swordfish in the world, and I confess to a special interest since she is a “Blackfish” - built by Blackburn Aircraft Ltd.) W5856 served with the Royal Navy’s Mediterranean Fleet for a year. Little is known of her role while on active Service in the Mediterranean after which she was then returned to Fairey’s Stockport factory for refurbishment during winter 1942/43.

Used for advanced flying training and trials, the aircraft was transferred to the Royal Canadian Navy in 1944 for training and then stored in reserve after the War’s end. Passing through the hands of at least two civilian operators after disposal, she was purchased by Sir William Roberts and brought to Scotland to join his Strathallan Collection, arriving in crates in August 1977 in a badly corroded condition. In 1990, the aircraft was bought by British Aerospace and completely restored to flying condition. Following a successful test flight at Brough in May 1993 she was gifted to the Royal Navy Historic Flight and three years later was adopted by the City of Leeds in tribute to the local companies that built Swordfish components during World War II. She now wears the City’s coat of arms and name on her port side just forward of the pilot’s cockpit.

SCHOLARSHIP UPDATES & FEEDBACK

OLIVER DUNNETT

Having pretty much always been aviation mad and having my sights set on a career in aviation as a pilot I took the decision to join the Air Cadets at 13 through my school’s CCF. A couple of years later I was lucky enough to be awarded a place on the Air Cadet Pilot Scheme which was ten hours of initial flying training at Tayside Aviation in Dundee. Having had a great two weeks in Dundee I was chatting to one of the PPL students there who explained that he was on a full PPL Scholarship awarded by the Honourable Company of Air Pilots. After returning to Lincolnshire I took some time to research the company as well as having a look at the ‘Flying Scholarships’ section on their website for a full PPL, the prospect of which filled me with excitement as a PPL was something I had often thought about over the past few years but it was simply unaffordable- at the time I was just about managing to pay for regular gliding thanks to a part time job. I must admit that after reading about the application process and reading past winners’ write ups I thought my chances were fairly remote so I put the scholarship to the back of my mind and carried on gliding whilst waiting for the application window to open.

In January I visited the company’s website and downloaded the application forms, having spent hours writing out countless copies of my answers I finally submitted my final version and sent it off. I saw on the website that candidates wouldn’t be aware if they’d made it to the interview stage until a few months later when they’d be contacted. As the months went past I was surprised that I’d heard nothing regarding my initial application, neither good nor bad. In order to just clarify my own position I contacted the office and received a prompt reply saying effectively that I had been given an interview place in London as one of the final 24 candidates the following Wednesday- very nearly a missed opportunity! I was of course delighted but also surprised that I had been selected for the interview stage, after a weekend of preparation and suit shopping (the school one was fairly tired!) I was excited to head down to...
Cobham House for my selection morning. Having arrived a few hours early I had time to cram in some extra preparation whilst sat in Costa! When the time came I walked over to Cobham House and met the 3 other candidates for that session. Understandably we were all fairly nervous- it was potentially an entire PPL after all! We met the Office Staff of the company who did a brilliant job of reducing the nerves, following a short aptitude test I was introduced to Immediate Past Master Chris Ford who would be one of my interviewers in conjunction with Kat Hodge. After what I considered to be a fairly poor interview on my part with plenty of waffling I left Cobham House and spent the next few hours sightseeing around London before my train back. This gave me time to reflect on what had gone well and what hadn’t, the take away for me was thinking before speaking! Around a week later I was absolutely elated to receive an email I hadn’t, the take away for me was thinking before speaking! I then had a couple of hours of solo navigation flights to fit in, I had a thoroughly enjoyable time flying around Lincolnshire- a notable highlight must have been watching the Red Arrows complete a Loop over Scampton as I watched from 2000ft. Before much longer it was time for my RT practical which I passed (Thanks to True Airspeed Training at Gamston) and then my QXC. My route was from Wickenby to Cambridge and Nottingham before returning to Wickenby. After waiting for just over a week for suitable weather I was finally sent off by myself, the following few hours were brilliant fun and I returned to Wickenby with my QXC form all filled out correctly! I then had a couple of hours to practise for my Skills Test which involved lots of ‘polishing’, the following day was set to be my Skills Test but sadly the weather pushed that back a day or so. Luckily on the test day the weather was excellent and after a brief chat with my examiner we set off for the test which in hindsight was both enjoyable and challenging, after arriving back from the test I was told that I’d passed. I was of course absolutely delighted and can’t wait to put my PPL to good use before hopefully moving onwards towards a career as a professional pilot.

As a person who has aspired to hold a PPL for a number of years I never conceived of the possibility of finishing the course just after turning 18, as a result I am hugely grateful to the Honourable Company of Air Pilots for awarding me this incredible Scholarship. I would also like to thank all of the Company members who generously donated to Chris Ford’s fundraising campaign to help not only myself but also Orbis and London’s Air Ambulance- two organisations which are arguably of far greater importance than my PPL! The list of individuals who have helped me to achieve my PPL is far too long to write down here but I would just like to highlight my Primary Instructor Steve Trafford and Angie Rodriguez who has managed my scholarship from an administrative point of view both efficiently and effectively while being very approachable throughout. Aside from the flying I feel this scholarship has also developed me as a person especially in relation to confidence and self-reliance and has even lead to the possibility of a job working at the Flying School. Once again I’d like to say a massive thank you to the Honourable Company of Air Pilots and its members for their extraordinary generosity and the very best of luck to all future applicants.

KATIE PLANT

Katie Plant was awarded the Saul Prize for Aviation Safety Research in 2014 as part of her PhD work which investigated aeronautical critical decision making. Katie went on to complete her PhD in June 2015 and this work has recently been published by CRC Press in the book: Distributed Cognition and Reality: How Pilots and Crews Make Decisions (2016).


In November 2015 Katie was employed by the University of Southampton as a New Frontiers Fellow in Human Factors Engineering. Since her award, Katie continues to pursue research in aviation, working alongside industry and academic on a collaborative Future Flight Deck project. Katie now also runs the module ‘Human Factors in Engineering’ which is taken by 80 Engineering undergraduates (including Aeronautical engineers) and is structured around cognitive and physical human factors theories and methods.

JORDAN BRIDGE

Having gone solo at 15 and moved up through the levels of Bronze and Silver at Lasham I have always thought of becoming a Gliding Instructor to give something back to the sport which has given me so many opportunities. Since
qualifying as a BGA Basic Instructor in early 2015 I have been very privileged to take nearly 100 people for their first taste of flight at the Lasham Gliding Society in Hampshire, but I still wanted to become more deeply involved with Gliding Instructing and sharpen my own flying skills so I jumped at the chance when my Chief Flying Instructor recommended me to become a BGA Flight Instructor and was hugely grateful to the BGA & Honourable Company of Air Pilots when I was told I had received the funding to do the training which may otherwise not have been possible.

Unlike the old BGA Assistant Category Instructor course the new course is far longer and spans over many months divided up to modules. Classroom Briefings are now a key focus of the course with the entire first module, which I carried out in October with the BGA, dedicated to learning methods of Teaching and Learning to maximize learning with student pilots. This was thoroughly interesting and I am now far more confident teaching using a whiteboard than I ever was when I was at college a year or so ago, though like many gliding instructors my artistic skills are still a work in progress.

The second module is the longest one and was based around flexible club training whereby you learn, practice teaching and sign off a huge amount of the gliding syllabus both in flying exercises as well as ground briefings. I did this module over a period of 4 months with my Instructor Coach Nigel who I am deeply grateful to for giving up many afternoons and evenings to share his expertise and help me develop my skills through this part of the course.

Then it was back with the formal BGA third module which looked at more theory including Crew Resource Management, methods of teaching as well as a small flight test to ensure that the B Module club training was coming together. At the end of the weekend it was back to the old Bronze Exam papers which had to be retaken at a higher pass mark to ensure that we all still knew the theory.

A brief few weeks then before the 4th module allowed for some polishing up of my teaching with Nigel and finally a chance to practice soaring training which of course is a core part of our sport but so few and far between in winter when the training took place.

Finally, with everything in place I spent a residential 5 days on the fourth and final part of the course doing multiple whiteboard briefings, simulator practice as well as lots of real life instructional flying when the weather allowed, including doing a practice type conversion flight/briefing on a Capstan! The final two days of the course were spent roleplaying different students from ab initios to qualified pilots which increased my confidence and ability to be able to cope with any student I’m given.

My thanks to Dave Bullock who ran all the BGA Courses and Regional Examiners Allan and David who gave up their time voluntarily to help coach and improve our teaching skills by role-playing.

The final formality of the Skills Test went without a hitch and as I write this I’ve just had my first few days teaching as a newly qualified BGA Flight Instructor. Though long and at times challenging, the course has been a very useful and has certainly given me the skills I need to be able to teach people to fly effectively, both in the classroom and in the air but it’s also improved my own handling skills to the next level. I look forward to spending many years instructing and using my position to enable young people of all backgrounds to consider Gliding as a first route into aviation and learning to fly. It is so vital that we have enthusiastic young people in the sport to keep the Gliding movement going for years to come.

IR PILOTS GO TO UNIVERSITY
(Past Master Dorothy Saul-Pooley writes)
On a sunny Tuesday morning, 19th September, a select group of ten members met in the Highfield Campus car park on the northern edge of the Southampton University for what was to prove a fascinating and diverse day. Our host, Richard, directed us to an impressively modern lecture complex where we heard from this year’s winner of the Air Safety Trust Saul Prize, Willem Eerland. Willem presented us a brief synopsis of his research into Trajectory Clustering, Modelling and Selection with a Focus on Airspace Protection. The aim of the work is to provide protection against heat seeking rocket launchers and his thought provoking presentation gave rise to a variety of questions from the audience.

After a delicious buffet lunch with Willem, his supervisor, Dr Andras Sobester and the 2014 winner, Dr Katie Plant, we were treated to a wonderful tour of the historic RJ Mitchell Wind Tunnel, now much used by Formula 1 vehicle developers and the Olympic cyclists. Dragging everyone away from there, further excitement was to be found in the Anechoic Chamber, the Reverberation Chamber and the Submarine Simulator Centre. Everyone was fascinated by all of these individual visits and could have questioned the academics for much longer.

The final visit was to the University Hospital which was also hosting some other visitors for a special tour of the Cancer Science Laboratories. The focus was on the ground-breaking research and clinical trials being developed in cancer immunology and after a cup of tea, Professor Peter Johnson explained the science involved. We learned that our bodies develop cancer in order that the cells can escape detection. It has been discovered that antibodies for treating the lymphomas will provoke an immune response and this has led to a large jump in survival rates. Patients undergoing chemotherapy for lymphoma will have a
In a slight variation on the Master’s program in previous years, I have already made my formal visit to the Hong Kong Region. This was hosted with great energy and kindness by regional Chairman Captain Tin Lam and his wife Wendy, Regional Vice Chairman Captain ‘Locky’ Lawford and his wife Rebecca, and Regional Administrator Ian Fogerty. Alongside a quite superb social program was a series of visits – the Hong Kong Civil Aviation Department; The Hong Kong Government Flying Service; and The Hong Kong Observatory. All are operating at the leading edge of their field.

The CAD has overseen the approval of a new runway for Chek Lap Kok airport in mere two years, whilst modernizing their ATC system to cope with the rise in traffic, indeed they have scope to deal with significantly more traffic then is there now, or forecast to be in the immediate future, already in place.

The Government Flying Service has perhaps the most broad mission set of any comparable air arm in the world, ranging from armed interdiction from the air in conjunction with the Hong Kong Police, to Search And Rescue in the mountains and out at sea in up to typhoon conditions covering a truly enormous operating area, to typhoon and other meteorological research.

They operate both helicopter and fixed wing aircraft and are pioneering new techniques with their CL605 jet, able to drop stores from radio sondes to life rafts whilst searching the area of concern with an onboard multimode surveillance radar and electro-optical/infrared surveillance system.

The Hong Kong Observatory has produced world class research into ways of predicting and reporting windshear and turbulence and into low-level wind effect at airports; the airflow disruption produced due to buildings and other man made structures close to runways, that themselves create turbulence and possibly windshear under certain conditions.

All of these organisations reflect a phrase that came to mind whilst I was there: ‘The Aviation Century’. Hong Kong, as a Special Administrative Region of China, has absolutely understood that aviation is essential to their future prosperity. This 21st century is ‘The Aviation Century’, where success will go to those countries that recognise that the connectivity which aviation generates will bring with it the investment and business decision makers that create the wealth on which their populations will rely.

Their nation understands the imperative of a world-class aviation infrastructure, and the constituent parts of it work together to achieve that goal. I would that we could say the same here in the United Kingdom. I am pleased that the government has taken a decision to recommend that a third runway be built in the South East of the country at our existing international hub, London Heathrow, and yet utterly dismayed that it has taken ten years even to reach this point, and will take many more before construction will even start.

We must understand, as Hong Kong has, that aviation and prosperity go hand in hand, and react accordingly. There is little point in our politicians coining phrases like ‘The Global Race’ and enjoining us to win it, for we cannot even reach the starting line until we do.

By the time this message is in print, Christmas will be imminent. Christina joins me in wishing all of our members throughout the UK and the Regions a very Happy Christmas, and a safe and prosperous New Year.

The Master’s Message

Peter Benn

In a slight variation on the Master’s program in previous years, I have already made my formal visit to the Hong Kong Region. This was hosted with great energy and kindness by regional Chairman Captain Tin Lam and his wife Wendy, Regional Vice Chairman Captain ‘Locky’ Lawford and his wife Rebecca, and Regional Administrator Ian Fogerty. Alongside a quite superb social program was a series of visits – the Hong Kong Civil Aviation Department; The Hong Kong Government Flying Service; and The Hong Kong Observatory. All are operating at the leading edge of their field.

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They operate both helicopter and fixed wing aircraft and are pioneering new
Once again we were privileged to hold our annual Trophies and Awards Banquet in the stunning surroundings of the City of London’s Guildhall, its origins as a mediaeval great hall still in evidence. Beforehand the Court met in the crypt, where the Master, Captain Peter Benn, clothed the following new liverymen: A Dawkes, RF Weidner, JR Smith, HW Cook, Mrs LK Murphy, RE Lotinga, JR Kinder, MJ Tousey, CJ O’Dea, GAR Ogg, PGO Voigt, and CJ Hancock. The Master also presented Master Air Pilot Certificates to: Major MD Hitch, J McCauley, S Perret, F Lt RO Williams, Sqn Ldr CM Stagg, F Neill, M Walker, K Warren, M Sinclair, J Pienaar, E Coventry; M Sewed and Sqn Ldr CSR Thompson received Master Air Navigator certificates.

After this Court meeting members and guests proceeded to a champagne reception in the Old Library, guarded, as ever, by Pikemen and Musketeers of the Honourable Artillery Company. Arms were not required to keep order.

The Master welcomed the guest of honour – Brigadier General SA Howden CD (Director General, Air Staff, Royal Canadian Air Force). Other senior guests included: Air Marshal Sean Reynolds (representing the CAS), Col LA Brown (Commando Helicopter Force), Col JD Bryant (Army Air Corps), Gp Capt P Nicholas (Air Advisor, Australian High Commission), Maj D Sutton (847 NAS), Wg Cdr G Sagar (RAF CFS), Wg Cdr M Cannon (Air Advisor, NZ High Commission), Wg Cdr A Tano (101 Sqn), the Master Security Professional, the Master Maker of Playing Cards, and the Master Coachmaker.

Our Beadle, Mr Ted Prior, ushered the Master and principal guests into the Great Hall to the customary slow handclap. After Grace from our Hon. Chaplin, the Rev. Dr P Mullen, the Master invited the newly-clothed liverymen to stand and be recognised. After a sung Grace, the banquet concluded with the ceremony of the
Loving Cup (guaranteed to puzzle and amuse our overseas guests), and toasts to HRH the Queen and the Royal Family, and the Lord Mayor and City of London Corporation.

The trophies and awards were presented by the Master, together with our principal guest; the recipients' full citations are to be found on the Company website - abbreviated versions follow. As usual, for varied reasons, there were a number of recipients who could not attend the event, including Maj Tim Peake, to whom the assembly would have liked to pay particular tribute.

After the presentations the Master addressed members and guests, underlining that “aviation energises the global economy”, concluding with a toast to ‘The award winners and our guests’. Brigadier-General Howden replied with a humorous and humble speech, which emphasised the bonds between Canada and Great Britain, no more evident than in the former’s participation in the Allies’ air battles of WW1, citing 408 Sqn RCAF/RAF.

A full transcript of the Master’s speech can be found on the company website at https://www.airpilots.org/file/2408/masters-speech.pdf.

The Master then invited all present to join him with a Stirrup Cup in the Old Library. Those staying at the RAF Club enjoyed further conviviality in the Cowdray Bar until some late hour which has slipped my memory.
Captain Robert ‘Hoot’ Gibson has been flying since 1968 when he joined the US Navy. He saw active service in Vietnam, flying the F4 Phantom and also F14 Tomcat. During his US Navy service he also completed over 300 carrier landings and was a navy test pilot. He was selected by NASA in 1978 for training as an astronaut and flew five missions; one as Pilot and four as Commander commencing his spaceflight in 1984 in Challenger. His last space flight was in June 1995 commanding Atlantis, the first Space Shuttle mission to dock with the Russian Space Station Mir. He left NASA in 1996 and joined Southwest Airlines where he became Chief Operating Officer and Chief Test Pilot in 2006. However, his aviation career also spans GA and in particular air racing where, in September 2015 he won the Blue Riband event – the Unlimited Class - at the National Championship Air Races at Reno in the highly modified P51 Mustang ‘Strega’.

Robert Gibson has flown 111 different aircraft types. Amongst his many awards are: the Louis Bleriot Medal, the Yuri Gagarin Gold Medal, US Astronaut Hall of Fame, and the US National Aviation Hall of Fame. His commendable career, as military test pilot, commercial pilot, air racing champion and astronaut, and tremendous list of achievements during a lifetime of involvement in aviation are worthy of further recognition this evening by the Company’s Award of Honour.

Lt Cdr Rob Dowdell’s naval career has spanned 30 years, 7000 hours and over 6000 deck landings. In his role as a test pilot he has strived to make naval aviation safer and more effective and his early work with NVG in naval service undoubtedly increased the operational capability of the RN Lynx fleet, but also, crucially, made approaches to ships at night far safer.

His notable test flying experience has also included most recently hot and high testing of Wildcat. Throughout his career Lt Cdr Dowdell’s approach has always been characterised by professionalism, pragmatism, and a youthful spirit that has seen him welcome advances in technology, whilst using his unique experience to put those advances in to practice. His exceptional dedication, over such a prolonged period, and the measurable effect his influence has had in terms of safety and capability, make Lt Cdr Dowdell a truly worthy recipient of the Derry and Richards Memorial Medal.

Lt Jennifer Boyd was commissioned in 2010 and arrived at the Defence Helicopter Flying School in early 2014 to start rotary wing flying training where she performed exceptionally well as a trainee pilot and finished the course very strongly, with excellent results.

Since completing that phase in training last year, Flt Lt Boyd remained as a student at the School whilst waiting for a Puma Operational Conversion course. During this time she has been instrumental to the facilitation and

The full citations for all Award winners can be found on the Company website; the following are abbreviated citations which were read by the Learned Clerk during the presentation of awards at the Banquet.

The Award of Honour

The Derry and Richards Memorial Medal

This award is for our best PPL scholarship winner for the year and is this year won by Will Moroney, who completed PPL training with Flight Training London at Elstree.

From the initial impression that he made upon the scholarship selection committee to the approach he adopted during his flying training, Will was exemplary.

As a result of his personal qualities and professional, competent approach to flying demonstrated during his training for a PPL, Will Moroney is awarded the John Landymore Trophy for 2016.

The Glover Trophy

The John Landymore Trophy

Flt Lt Jennifer Boyd was commissioned in 2010 and arrived at the Defence Helicopter Flying School in early 2014 to start rotary wing flying training where she performed exceptionally well as a trainee pilot and finished the course very strongly, with excellent results.

Since completing that phase in training last year, Flt Lt Boyd remained as a student at the School whilst waiting for a Puma Operational Conversion course. During this time she has been instrumental to the facilitation and
delivery of the Joint Aircrewman Course.
Ft Lt Boyd truly embodies the work hard, play hard attitude which is at the core of the military ethos and always puts the benefit of others first in all that she does. She has excelled during her rotary wing flying training and has demonstrated outstanding qualities. In recognition of her meritorious record in training, Ft Lt Boyd is a very worthy winner of the Glover Trophy.

The Grand Master’s Medal

Philip Mathews gained his PPL in 1974 and his instrument rating 10 years later, and in 1992 became CFI at Cotswold Aero Club.
Noticing a marked reluctance from the other schools to offer training to aircraft owners in their own aircraft, Phil decided that he would fill the gap. As a result he has flown with a very wide variety of people in over 150 types of aircraft conducting ab initio, night, IFR and multi-engine training.
Phil has approaching 22,000 hours and in 32 years of instructing has had a hand in the training of around 500 PPLs and numerous ratings and CPL trainees. In recognition of his outstanding contribution to the maintenance of high standards of civil flying instruction and safety, Phil Matthews is a deserving winner of the Pike Trophy.

The Pike Trophy
Nigel contributed for many years to a range of aviation journals and has published several books. In 2000 he was invited to become the editor of the General Aviation Safety Council’s quarterly magazine, now known as ‘GASCo Flight Safety’. In 2013 the GASCo Board asked Nigel to launch ‘Flight Safety Extra’, a monthly digital overview in one publication of the latest information relevant to GA pilots. From a standing start Nigel has grown the readership of this valuable safety resource to over 6500 in less than three years.
For an outstanding contribution to the promotion and public awareness of aviation in general, Nigel Everett is awarded the Award for Aviation Journalism.

The Master’s Commendation

Major Jean Leroux, Commanding Officer of 103 (SAR) Squadron RCAF, based in Gander, Newfoundland, is one of the most experienced SAR pilots in the RCAF.
In February this year, during an exceptionally busy period which coincided with an abnormally low availability of aircrew due to illness, he flew an unusually high number of operational SAR missions; so much so that he required special dispensation by the RCAF to fly to that intensity in such a concentrated period of time.
This was an unusually gruelling sequence of SAR missions, mainly urgent medical evacuations, and many of them in severe Arctic icing conditions; on one occasion, requiring refuelling enroute on an oil platform. One of these missions was a further attempt at an evacuation which had been previously attempted by another crew, but which had been unsuccessful due to the severe weather conditions.

The Award for Aviation Journalism
Nigel Everett joined the RAF as a national serviceman and flew the Piston Provost and the Vampire before becoming a chartered surveyor and then returning to flying in 1980 as a private pilot.
During this intense period of operations, Major Leroux’s professionalism and flying expertise, together with sheer perseverance in extremely challenging conditions and over a concentrated period of time, saved multiple lives, displaying outstanding leadership in time of crisis. He is accordingly awarded the Master’s Commendation.

**The Sword of Honour**

Fred Marsh is widely known in general aviation circles and has made a significant and sustained contribution for more than 50 years.

Fred was Founder and Chairman of the Formula One Air Racing Association and was British Air Racing Champion, as well as UK Vice President to the Federation Aeronautique Internationale. He founded Europe Air Sports in 1988, which now represents some 680,000 people who practice air sports. He has served as Chairman and is now one of the Vice Presidents of the Royal Aero Club. He founded the Royal Aero Club Trust which has provided tens of thousands of pounds in bursaries to support the training and development of aspiring young aviators.

Fred is always a first port of call for queries relating to GA, past or future, because of his sage advice and wisdom. In recognition of his outstanding contribution to General Aviation, he is a worthy winner of the Sword of Honour.

**The Central Flying School Trophy**

Tayside Aviation Limited was formed in 1968 and operates out of Dundee and Fife Airports.

The highly successful and sought after RAF Flying Scholarship Scheme, introduced in the 1950s, has been operated by Tayside Aviation since 1978 when the company was awarded a contract to train 15 Air Cadets. In 2001 the Flying Scholarship migrated to become the Air Cadet Pilot Scheme providing 12 hours flying per cadet so they could achieving a first solo flight in a powered aircraft.

Thousands of cadets have been trained by Tayside Aviation since 1978 and many of these have pursued flying careers in military or civilian aviation. For 38 of the RAF Air Cadets’ 75 year history Tayside Aviation has provided a unique flying experience that has given young people an opportunity that many could not afford in their wildest dreams.

In recognition of achievement of excellence in the delivery of flying training and instructional standards, Tayside Aviation, represented by Mr Ian Watt, is awarded the Central Flying School Trophy.
this has been endorsed by the ICAO Separation and Airspace Safety Panel and agreed that it should be adopted as a global standard.

The significance of the work of the PBN Research Project cannot be underestimated. In recognition of an outstanding and practical contribution to the safer operation of aircraft, the Performance-based Navigation Research Project Team members are collectively awarded the Sir James Martin Award.

The Brackley Memorial Trophy

Flt Lt Hewer is a Chinook Evaluator Pilot on the Rotary Wing Operational Evaluation Unit at RAF Benson. Responsible to HQ Joint Helicopter Command (JHC) for independent assurance of upgrades and enhancements to the Chinook, he is one of the foremost subject matter experts on the aircraft and has made an invaluable contribution to a number of UK MOD Chinook upgrade programmes. Indeed, Boeing recognised his experience and captaincy ability by making him a Boeing certified aircraft captain ahead of their own Head of Flying when it came to the defensive–aide suites trials.

One of the more significant upgrade programmes has been the integration of Traffic Alerting System to all marks of Chinook, an integral safety modification to mitigate against mid-air collision, currently the highest non-enemy risk to life for aircrew in JHC, and for which Flt Lt Hewer was lead development pilot.

Flt Lt Hewer has markedly stepped above what would normally be expected of an operational evaluation pilot, assuring capability to the front line and value for money to the UK taxpayer; he is rightly recognised for his endeavours by the award of the Brackley Memorial Trophy.

The Johnston Memorial Trophy

The UK Reaper Force crews flew hundreds of operational Intelligence, Surveillance, Targeting, Reconnaissance, Close Air Support and Interdiction missions during 2015, receiving numerous plaudits for their professionalism and effectiveness. The consistent quality of effect delivered by UK Reaper places the capability in high demand, not just on a broad range of tasks, but from a wide variety of coalition commanders.

Innovation and evolution remain fundamental to sustaining UK Reaper Force successes. Their development of procedures to hand-over control midway through operational missions leads the world in delivering greater sustainability and peak performance among RPAS crews and understanding and improving the Human Factors element remains pivotal to both the development and optimisation of RPAS operations at every level. For outstanding performance in the operation of airborne systems, the RAF UK Reaper Force, represented this evening by the ISTAR Force Commander, Air Cdre Andrew, is awarded the Johnston Memorial Trophy.

The Grand Master’s Commendation

The Sea King Mk4 retired from Service in March this year, marking the end of an illustrious 37 year career as the troop carrying stalwart of the Commando Helicopter Force. Since its introduction to service the aircraft have flown nearly half a million flying hours and have been instrumental in protecting our Nations interests across the globe.

In order to sustain its Support Helicopter capability, over the last two years the CHF has seamlessly managed a multi-faceted change programme, transitioning from the Sea King to the Merlin Mk3, an associated move in operating base from RAF Benson to RNAS Yeovilton, a shift in operating environment from a land based focus to a very high readiness posture for global operations in the littoral, and a change in Command and Aviation Duty Holder responsibility from the RAF to the RN. This transition is widely viewed across Defence as an exemplar of change management.

The Military Aviation Authority’s audit of the Joint Helicopter Command commented specifically on the programme’s effective implementation. Represented this evening by the Ops Officer, Maj Brown, as it embarks on a new era, the CHF’s outstanding service in the air during many decades and conflicts is recognised by the award of the Grand Master’s Commendation.

On 16 Nov 2015, Flt Lt Jones was the lead WSO of a pair of Tornados tasked on an Op Shader Close Air Support mission. Conditions were so hazardous that they were assessed to be on the very limit of safe flight and the authorising officer had considered cancelling the mission.
After encountering severe turbulence and icing during the transit to theatre, Flt Lt Jones then successfully led his force to press home an attack on the enemy, prior to a further demanding and dangerous transit to rejoin with a tanker for refuelling. The extent of the dangerous conditions became apparent during refuelling when severe electrical arcing occurred between the Tornados and the tanker. By this point Flt Lt Jones had been airborne for seven hours and, along with the rest of his formation, was suffering from significant fatigue but, aware that his aircraft would be needed for missions the next morning, he pressed home to RAF Akrotiri through intense levels of turbulence, icing and lightning. Despite having to operate at night, in the most severe and hazardous of weather conditions, Flt Lt Jones displayed outstanding bravery by continuing with the mission, ensuring that friendly forces had vital air cover, when many would have discontinued the mission. In recognition of outstanding service in the air during this mission in exceptionally poor and dangerous weather conditions, Flt Lt Jones is awarded the Grand Master’s Commendation.

The Hugh Gordon-Burge Memorial Award

The Prince Philip Helicopter Rescue Award

In November 2014, Capt Richard Alvarez was the pilot in command of a twin turboprop operated by Amazonas Airlines, on an internal flight in Bolivia with 17 passengers and 2 crew members. While on descent for final approach, a large bird struck the aircraft, causing a large hole and destroying the flying surface of the portside wing. The aircraft suddenly entered a spin to the left and dropped about 1500ft. Capt Alvarez immediately took the controls to stabilize the aircraft, and with differential power and tremendous physical effort managed to control the yaw.

Cleared for immediate landing, the aircraft suffered three further violent wing drops during the course of the approach. In order to reduce drag during the approach and to help maintain power and airspeed sufficient to reach the runway, Capt Alvarez was unable to deploy the flaps or landing gear until at the runway threshold and therefore made a very fast, although successful landing, without any personal injury to passengers or damage to the aircraft. In fact, Capt Alvarez was the only one injured in the near disaster. The physical effort required to maintain controlled flight had caused a hernia in his lower back. Days after this incident, he underwent back surgery and this resulted in him being unable to return to flying duty after 32 years.

The reactions of Capt Alvarez, the split second decision making and sheer physical effort involved in the handling of this emergency and landing was outstanding. To have safely executed this emergency landing, with the loss of no lives, is a heroic and meritorious achievement and he is accordingly awarded the Hugh Gordon-Burge Memorial Award.

The Prince Philip Helicopter Rescue Award

In February 2015 Air Station Cape Cod’s Seahawk rescue aircraft call sign 6033, was launched to assist the vessel Sedona, beset by a severe winter storm 150 NM from shore. All other rescue aircraft from Maine to North Carolina had been grounded. However, in the knowledge that no cover aircraft would be available, the crew of ‘CG 6033’ acknowledged the personal risk to their own safety and still elected to continue with the rescue attempt.

Following a perilous journey through ice, snow and lightning, CG 6033 arrived on-scene. When the flight mechanic opened the cabin door, his helmet visor immediately froze over with ice and, as a result he was forced to perform all hoists in the freezing spray and turbulent winds without his protective visor. The rescue swimmer then battled 35 foot seas to reach the ‘Sedona’ and prepared the crew to abandon ship.

At one point, gusting winds caused the rescue basket to swing and the rescue swimmer had to block the basket with his arm to prevent it from striking a survivor’s head. As the basket contacted the swimmer, the massive static charge was rapidly discharged, briefly rendering the rescue swimmer unconscious. However, demonstrating extraordinary tenacity, the rescue swimmer quickly recovered his faculties, assisted the survivor into the rescue basket and completed the hoist.

Finally, on arriving back at Cape Cod, the aircrew encountered white out conditions and was forced to follow snow ploughs back to the ramp, where the survivors were delivered to emergency medical services. In recognition of their outstanding courage and devotion to duty during this extremely demanding rescue, the entire crew of CG 6033 are collectively awarded the Prince Philip Helicopter Rescue Award.

The Prince Philip Helicopter Rescue Award

On 30 December 2015, R177, the duty Search and Rescue aircraft at HMS Gannet was tasked to attend a bus in
South Ayrshire stuck in floodwater as a result of rainfall and continued gale force winds during the passage of Storm Frank.

The bus was stuck in a heavily flooded river, listing and partially submerged, only just held from being completely lost by a wall. The bus was also under significant tree cover, preventing easy access and making use of a hi-line to extract the casualties impossible. The aircraft commander, Lt Lightfoot, therefore planned to put the aircraft itself into the trees, enabling the winchman to be lowered directly through the branches using his own weight to force a way through. The handling pilot, Lt Cdr Lanni, positioned the aircraft with the starboard sponson in the treeline and the winchman was deployed.

After 90 minutes, in unrelenting storm conditions, and after the winchman was nearly trapped under water against the bus, the aircraft was becoming dangerously low on fuel. However, there remained one casualty to rescue so Lt Lightfoot decided that with the potential total loss of the bus still present, there was no opportunity to stop and he decided to take the aircraft to its absolute limit of endurance, accepting that they would have to shut down the aircraft in situ after completing the rescue. Finally, with all 10 casualties on board, they landed in darkness in the immediate vicinity of the rescue site. A fuel bowser had been called out from HMS Gannet and once refuelled in situ, the aircraft returned to its base, to be launched again later that night for the fifth callout in 24 hours.

The rescue of all 10 casualties from the bus tested the flying skill of the pilots, and every fibre of the winchman’s strength, having nearly drowned through exhaustion in freezing conditions. The crew of R.177 were resolute, determined and successful and their actions were decisive in saving all. The entire crew is therefore most deservedly recognised for their outstanding courage and devotion to duty by the award of the Prince Philip Helicopter Rescue Award.

In addition the following award winners were not able to be present:

Master’s Medal
Major Tim Peake CMG, BSc (hons); T’ Curtis-Taylor

Myles Bickerton Trophy
Maj Ryan D Chute USAF

To be presented shortly by the Master on his Regional Tour:

The Grand Master’s Australian Medal
Temora Aviation Museum

The Australian Bi-Centennial Award
Matt Hall

The Jean Batten Memorial Award
John Funnell MBE
Since my last article, I’ve been fortunate to visit the end of the induction week at City University (London) for MSc students of Air Transport Management, Air Safety Management and Air Maintenance Management. This particular student body is truly international, reinforcing the global nature of aviation. The principal reason for my visit was to brief the students on the annual bursaries (up to four of £3,000 each) that we award, but it was also a chance to observe their syndicate presentations and to explain a little about our Honourable Company. Seeing this group of relatively young people sharing ideas and enthusiasm in aviation matters was inspirational; receiving their requests for more information and application forms to join our Company was an unexpected bonus too!

TECHNICAL COMMITTEE
Our Technical Committee met on 20 September. With the change from a UK-only committee to one with international membership, meeting notes of are no longer limited to committee members but are available to all Company members. Therefore, rather than repeat all the proceedings here, you can find them, and the pre-meeting papers, on our website (see https://www.airpilots.org/members-pages/committees/technical-committee-tc/tc-

A DMISSIONS
As Upper Freeman
Captain Timothy John BURNS (HK)
Captain Alan Lee CARTER
Captain David William Francis COLLETT (OS)
Paul DUNCAN
William David FANSHawe (OS)
Group Captain Stephen James GREEN
Lieutenant David-John Edward GIBBS
Peter Stafford GRIFFITHS
Captain Allan Jose MARSHALL (NA)
Captain Steven Scott MORRIS (HK)
Captain Georgios PRENTZAS (OS)
Ian Clunie ROSS
Captain Mark James SMITH (HK)
Captain Jonathan Daniel STEINFELD (NA)
Captain Ho Man Bruce WONG (HK)

As Freeman
Margaret Mary APPLETON
Jeff Richard CLEARY
Joh Sebastian COX
Deborah Judith EVANS (AUS)
Dr Paul Elliott FERMOR
Benjamin Thomas Spencer HEMMINGWAY
Glen William JAMES
Trevor Allan JARRETT (HK)
Daniel Greth JONES (AUS)
Thelma PYE (AUS)
David Bernard SPAUGHTON
Tryphons STAVROU
Beatrice DE SMET
Wing Commander Stephen Leonard WETTON

As Associate
Jack William ABRAHAM
Joshua ALI
Elliot Sean ARCHER
Emily ATHERTON
Zoe BURNETT
Felix CHARLESWORTH

Jonathan COLES
Sean Joseph COYNE
Rexce DOWNES
Oliver Edward DUNNETT
Andrew Robert GLADDErr
Andrew Stuart HADFIELD
Peter HARTSHORNE
Anna HULME
Callum JAGGER
Rebecca KWO
Alasdair MacKENZIE
Will Robert MORONEY
Ishq MULLAZADA
Ian Christopher PALMER
Jonathan PATTerson
Nschal RANA
Kaira Aina RICHARDS
Bethany Olivia ROBBINS
India Marie SMART
Emily Joy SMITH
Stuart Thomas SWAIN
Perrin Edward James TURNER (NZ)
Mohammad Amin Hamed VAFADAR (OS)

To Freeman
William Grant SPENCE

DECEASED
Peter Wallace KENT (AUS)

RESIGNATIONS
Christopher Lee CANADA (NA)
Richard CHAMPION
Barry Austin COLLINS (HK)
Graham COLOVER
Robert EVANS (OS)
Paul FREESTONE
Peter GIBBON
Charles HOLDAWAY
David Michael JURKOWSKI (NA)
Tyler Kragh (NA)
Matthew LANE
James MAY
Robert McNAY
Jams PASSMORE
Jordan ROGERS (NA)
Matthew James SANDBACH
Douglass WESCOTT
Paul WHEATLEY
James WILKINS
Timothy WILLIAMSON

FORFEIT ALL BENEFITS
James BENNINGER (NA)
Jonathan BURLEY (NA)
Jack CASEY (NA)
King Chong CHAI (OS)
Christopher CLARKE
Warren HENDERSON (NA)
Michel LALUMIERE (NA)
Paul MELHUISH
Duncan TELFER

From the desk of the Director Aviation Affairs

Liveryman John Turner

INTRODUCTION
Since my last article, I’ve been fortunate to visit the end of the induction week at City University (London) for MSc students of Air Transport Management, Air Safety Management and Air Maintenance Management. This particular student body is truly international, reinforcing the global nature of aviation. The principal reason
You will see that we still have some difficulties: our aspiration to hold these meetings with attendees joining live from outside of the UK have, for the moment, been hindered by our IT facilities. It is taking longer than we had expected to remedy this, but I assure you that while our determination to hold meetings across our international membership has been delayed, it has not been diminished.

**TRUE NORTH - A CONSTANT HEADING REFERENCE**

Magnetic Variation (Mag Var) in UK is quite small and relatively stable at present but other parts of the world face particular problems as Mag Var changes rapidly across some nation’s airspace. (Mag Var varies across USA and Canada from about 20 degrees West to 20 degrees East.) We have been discussing the benefits of moving aviation to a TRUE (as opposed to a MAGNETIC) NORTH heading reference for some time now and have prepared briefing papers. It is gratifying then, to discover that others have been thinking the same way; the topic was raised in ICAO many years ago but more recently it was covered at the IATA conference by an Air France Captain. We will continue to press for a change and hope to collaborate with the other initiatives to bring about a global - or progressive, regionally-phased change - to eradicate the current difficulties created by differences between different aircraft Mag Var data-bases and the need for operators to keep such data-bases up to date.

**INFLUENCING INCREASINGLY INTERNATIONAL AVIATION**

We have long felt that our outwardly UK-centric organisation was increasingly a barrier to influencing regulators and policy makers. Now, one of our members has been told that he cannot represent the Air Pilots on EASA’s new ‘General Aviation sectorial advisory body’ because we are not international enough! This revelation was especially surprising as our member had been an extremely active and productive member of EASA’s predecessor GA committee and was instrumental in getting high-quality safety education programmes spread across the various nations’ GA communities in many languages. The recent development shows the importance of our move towards a Technical Committee with international representation. It also suggests that we will need to establish new strategic alliances. (Our member was told he would be welcome on EASA’s new forum if he could take a place allocated to a European aviation organisation, so this particular issue has nothing to do with Brexit!)

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**Air Pilots Luncheon Club 28 September 2016**

The Royal Airship Works, R101 and links to the formation of the Guild

Peter Davison

John Robinson welcomed Linda Fulton and Keith Warburton, before introducing our speaker of the day, Peter Davison.

The role of the R101 was to be two-fold: carrying civilian passengers on the Transatlantic route, and submarine hunting. Its genesis was in the Imperial Airship Scheme of 1924. Our Guild was founded in Autumn 1929, and the airship crashed on its twelfth flight on October 5th 1930: it is little surprise that our nascent Company was greatly affected by the tragedy. The crew was captained by Carmichael Irwin; Deputy Master Sqn Ldr Ernest Johnson was aboard as the airship’s navigator, and the first officer, ‘Grabby’ Atherstone, was also a member of our Court (and had had the honour of sinking a U-Boat in the Great War). Maurice Giblett was aboard as Chief Meteorological Officer, and was an honorary member of the Guild. Chief amongst the passengers was Lord Thomson of Cardington, whose extensive baggage was to cause overloading problems. But next in the packing order was our founding Master, Sir Sefton Brancker, Director of Civil Aviation.

Peter put the enormous scale of the R101 in a modern context – it was broadly the same size as the HSBC tower at Canary Wharf. Its typical cruising altitude was 1500’ – lift/weight issues prevented it going much higher. The original design concept had been for 100 passengers to be transported on overnight flights, linking the countries of the Empire. It had significant and crucial design differences with privately-constructed competitor, the R100. The doomed craft had fixed pitch propellers, driven by diesel engines. (One engine had a propeller permanently set in reverse, so could not be used for cruising flight). Attempts to incorporate variable pitch technology had failed.

The Government ship had the “fanatical endorsement” of Lord Thomson, who had been promised by his chum Ramsey Macdonald that he would be made Viceroy of India (where he had been born). He was desperate to reach India in time to attend an Imperial Conference.
Major George Scott, (Assistant Director of Airship Flying) was aboard; a big drinker and maverick, he acted like an admiral aboard his flagship. Brancker however was an aviation professional, and with others had been lobbying Thomson for a postponement of the flight to India. Extra gas bags inserted to overcome the lift problem were rubbing on the internal structure. On the evening of the 4th, the weather forecast showed a deteriorating picture. Nonetheless it cast off from Cardington at nightfall at 1836 GMT. It passed London and the forecast showed a deteriorating picture. Only four crew members survived. There was a mass state funeral only one week later. As Peter noted, Thomson went out in a blaze – but not one of glory. The legacy of the disaster (apart from the effective abandonment of the nation’s airship aspirations) included improvements in material technology, stress calculations, long distance navigation, and meteorology. In giving thanks for this fascinating talk, the current Master noted that there were five Comet 4 pilots at his table!

The Sir Frederick Timms Memorial Lecture - Airlander
28 September 2016

Upper Freeman Rick Andrews

After an introduction by the Master and in the presence of HRH Prince Michael of Kent, Chris Daniels, Head of Partnerships & Communications at Hybrid Air Vehicles Ltd, began his lecture by immediately addressing the matter on everybody’s mind – what had happened to result in the heavy landing incident at the conclusion of Airlander’s second flight on the 24th August.

The incident occurred following the 100 minute test flight, necessarily conducted in full view of the public and media. No injuries were sustained and the damage to the aircraft itself was limited to the forward cockpit area. AAIB & EASA reports had been submitted and a separate independent report has been prepared for internal ‘lessons learned’ use. Repairs are being carried out and the next flight is expected early in 2017.

Chris then outlined the fascinating history of ‘lighter-than-air’ from the time of the founding of the RAEs, through the R100 and R101 airships through to the start of the Airlander project itself. The inherent advantages of airships, which ‘float’ and therefore gain ‘free’ lift, are those of payload (in whatever form – fuel, pax or cargo), endurance, lower cargo operating costs than other air vehicles and ‘green’ credentials. The problems they face were apparently summarised by Barnes Wallis to visionary founder of HAV, Roger Munk, as the gas (Helium is used and in comfortably adequate supply) and its retention, the hull material, flight control and vectored thrust, reduced weight and ground handling/wind shift.

The aim of Airlander is to solve these problems and to combine the best of other aircraft – V/STOL, hover, hovercraft and heavy lift. Indeed some of these have indeed been solved with a surprisingly high lift figure of 40% coming from aerodynamic, rather than aerostatic lift and the 3-layer hull material coming from Americas Cup sail technology. There is no internal structure, little metal and the gas pressure is only marginally above atmospheric. An automated system of air ballonets allows for expansion of the gas with altitude to a ceiling of around 20,000’ and the weight of the aircraft is approximately 1,000kg to reduce ground crew requirements to a handful and the need for only a 5m mooring mast. Since its buy-back from the US Army in December 2013, the aircraft has been extensively modified and improved.

Chris summed up by saying that ‘Size Matters’ and Airlander is not only huge in comparison to an Antonov 225 or Airbus 380 but it also has huge market potential. Various questions followed, ranging from the vulnerability of the hull material to hostile fire, its possible use as a flying aircraft carrier or drone mothership, to its use in wildlife conservation acting as overt surveillance and a deterrent to poaching. Manned or unmanned, electric motors and solar power, unequal heating of the gas on hot days and the US attitude to the project were also addressed with positive answers forthcoming in almost all cases.

A vote of thanks to Chris was given by our Director of Aviation Affairs, John Turner, who first thanked the Master for stealing his ‘Thunderbirds’ analogy punchline (!) before praising the project’s vision, innovation, exploitation of technology and the effect on fostering childrens’ imagination and interest. He also commented that flight tests were the right place for ‘bumps’ to occur. Chris’ easy style laced with plenty of humour and his enthusiasm – nay, passion – carried his audience with him; a great ambassador for the cause.

This highly enjoyable lecture was followed by the usual reception upstairs.
In the slipstream of the Royal Flying Corps

Jeremy Shaw

The Tiger 9 aeronautical display team, comprising nine de Havilland DH.82A Tiger Moth aircraft, flew from the United Kingdom to northern France during June 2015. The Tiger Moth was a two-seat basic trainer aircraft operated by the Royal Air Force (RAF) between 1931 and 1955. Many thousands of Allied airmen learned to fly in these biplanes during World War II. In 2015, the Tiger 9 was part of a larger gathering of aircraft on a vintage air tour organised by the de Havilland Moth Club. The Tiger 9 had been invited to display at the Meeting Aerien at Compiègne-Margny aerodrome north of Paris. Whilst based at Compiègne, the Tiger 9 also completed a commemorative flight over some significant World War I battlefield sites located 35 miles to the north. This is the story behind the Tiger 9’s Commemorative Flight over the Somme.

France, Friday 5th June 2015, 0900 hrs. Amiens-Glisy aerodrome is bathed in warm morning sunshine. Numerous rows of de Havilland aircraft of the Vintage Air Tour, which had stayed overnight at the aerodrome, wait patiently for the forthcoming day’s activities. Aircraft are readied, pilot briefings are held and, one-by-one, aircraft are started, taxi to the grass strip and take off into the cloudless blue sky before heading for the next destination on the tour. But one Tiger Moth, piloted by Clive Ponsford, is on a different mission: to undertake an aerial reconnaissance of the former Western Front just 17 miles to the east, to prepare for a commemorative flight by the Tiger 9.

One hundred years previously, the Western Front had been established as a line of trenches running from the North Sea in Belgium to the Swiss border. In July 1916, two years after the start of World War I, the Allies initiated the Somme Offensive to divert German resources from Verdun and thus reduce the pressure on the French forces. After five months of bitter fighting the weather closed in for winter and the Somme Offensive was over. The German Army had been pushed up to 30 miles eastwards. Fighting was focused further north during 1917, but returned again to the Somme region in 1918. The German Michael Offensive, launched in March 1918, pushed Allied forces up to 40 miles westwards back over the ground taken since 1916. Allied forces then halted and repulsed the German advance, and the Armistice was signed in November 1918.

From an aviation perspective, the Royal Flying Corps (RFC) had started flying reconnaissance missions soon after its arrival in France during August 1914. New skills and equipment in aerial photography were perfected as the war progressed. In preparation for the forthcoming Somme Offensive, it was essential for the front to be photographed each day so that Army Headquarters could see the effects of the preparatory bombardment. In the week prior to launching the Somme Offensive, poor weather had prevented flying, so up-to-date photographs were needed at all costs.

In the words of Cecil Lewis, author of one of the most highly-regarded pilot autobiographies Sagittarius Rising, and who became the last surviving British flying ace of World War I: “Clouds forced us down to two thousand feet... At two thousand feet we were in the path of the gun trajectories, and as the shells passed above or below us, the wind eddies made by their motion flung the machine up and down as if in a gale. Each bump meant that a passing shell had missed the machine by four or five feet.”

The Somme Offensive was launched at 0730 hours on 1st July 1916 when, following a seven-day artillery bombardment, 60,000 British troops emerged from their trenches and advanced across no-man’s land along a 14-mile front. A further 40,000 British troops were sent forward later during that day. French troops advanced at the same time on an adjacent smaller front south of the River Somme. The opposing armies on the Western Front were each supported by aircraft that, just seven years after the first ever flight across the English Channel, were being used to establish the new tactical concept of air superiority.

In July 1916, considerable numbers of aircraft were operating around the Somme front line. Elements of seventeen RFC squadrons operated 185 aircraft in support of the British front, primarily in a reconnaissance rôle. A further 201 aircraft operated in support of the French army south of the River Somme. Along the same British and French fronts, the Germans operated 19 fighters and 110 reconnaissance aircraft. By the end of July 1916, the RFC was completing 450-500 flights a day, with pilots flying several sorties a day. By October 1916, 540 German aircraft were operating in the region. Between September and December 1916, 311 allied aircraft were shot down on the Somme front.

Now let us fast-forward to 2015: A lone Tiger Moth is heading towards the path of the Western Front, in search of significant sites on the Somme battlefield over which the commemorative flight will be flown. The Picardy landscape of the Somme region is largely rural and flat, with a patchwork of fields and woods interspersed with small villages. The sites of potential interest are, typically, military memorials or cemeteries. Many of these were built on or near the front line, and are separated by less than a mile in places, so navigating between individual sites will be challenging.

In my role as observer-photographer, I wanted a straightforward way of guiding the reconnaissance aircraft to these sites. The resolution of standard air navigation maps is insufficient to display individual cemeteries so cannot be used for this purpose. I therefore used a tablet computer with built-in GPS, with an app and maps (available free) from www.viewranger.com. The app is intended to support a variety of outdoor pursuits, and is used by most UK mountain rescue teams. It also includes a light aviation mode. I had already plotted the location of the Western Front before arriving in France, and had plotted a route over a dozen possible sites. The facilities provided by the app are excellent and allowed me to provide local navigational guidance by voice. This enabled the dozen possible sites to be over-flown in quick succession. It is
simply not practical to undertake a
detailed reconnaissance flight over so
many closely spaced sites without
appropriate navigational assistance. The
navigational skill of the RFC pilots,
flying without GPS over the same but
hostile landscape, whose features had
been eliminated by gunfire, is
remarkable.

After completing the planned route, we
returned to Amiens-Glisy aerodrome to
refuel in preparation for the next leg of
the Vintage Air Tour. Based on the
observations made during the
reconnaissance flight, I changed the
original plans and selected just five sites
for subsequent over-flight by the
commemorative formation two days
later.

Memorial sites
The memorial sites were chosen to
commemorate the different phases of
World War I on the Somme: starting with
the Somme Offensive in 1916 and
ending with the final halting of the
German advance in 1918. The map
shows the flight path taken by the
formation.

It was interesting to reflect that the
reconnaissance flight had undertaken a
similar task, for a similar purpose, in a
similar aircraft, in the same airspace as
flown by the RFC one hundred years
previously.

Commemorative flight
France, Sunday 7th June 2015, 0900 hrs.
Location: Compiègne-Margny
aerodrome, north of Paris. It is the final
day of the ‘Meeting Aérien’, an airshow
with a mix of classic aircraft, motorcycles
and military vehicles. Aircraft on display
included a Morane-Saulnier MS.181 (a
French aerobatic trainer designed in 1929),
a Pilatus P-2 trainer, and a Curtiss
P-40 Warhawk amongst many others –
including aircraft of the visiting de
Havilland Moth Club. The de Havilland
Moth Club’s Tiger 9 aeronautical display
team was to display during the
afternoon. But during the morning, the
Tiger 9 was to undertake a
commemorative flight over the former
Somme battlefields of World War I
located 35 miles to the north. A pilots’
briefing was held, and then the Tiger
Moths of the formation flight readied for
take-off. The camera ship, piloted by
Clive Ponsford, was the first to be
airborne and went into a holding pattern
north of Compiègne to await the main
formation’s take-off. Looking back at the
aerodrome, the nine Tiger Moths of the
main formation could be seen on the
grass runway in three vic formations,
awaiting clearance for take-off. With a
spurt of dust rising behind them, each of
the three vics lifted in turn and headed
north towards the first objective.

Pilots for the formation flight were Jeff
Milsom, Mike Vaisey, Jonathan Turnbull,
Duncan Green, Len Mitton, Jeremy
Radcliffe, Jerry Rendall, David Wildridge
and Robin Russell. Also accompanying
the formation in an eleven Tiger Moth
was John Baxter. There was a vast pool of
flying experience within the formation flight,
including that of flying Concorde,
RAF fast jets, and current airliners.
The weather was warm and sunny, with
occasional clouds forming dark shadows
that scurried across the fields below.
Despite some turbulence, the flight north
was straightforward.

Ten minutes before arriving at the first
site, the loose formation was called
together into the Tiger 9’s signature nine-
ship ‘box’ formation. The camera-ship
then moved to the best position relative to
the main formation. The main
formation deliberately flew at just 70
miles per hour to give the camera-ship
(which is known to be a ‘slow’ Moth),
some ability to adjust its relative position.

In the chronology of World War I, the
first site visited was the Thiepval
Memorial to the Missing of the Somme:

Thiepval Memorial

Thiepval Memorial is the largest British
war memorial in the world. Designed by
Sir Edwin Lutyens, the memorial was
unveiled in 1932 by HRH the Prince of
Wales – the future King Edward VIII –
and displays the names of 73,357 British
and South African soldiers from the 1916
and 1917 Somme battles who have no
known grave. There are separate national
memorials for Australia, Canada, India,
Newfoundland, New Zealand and South
Africa. On 1st July 1916, the first day of
the Somme Offensive, the front line
passed through this site. Thiepval
Memorial was built over the tunnels of
the German trenches, whilst the British
front line ran through the field between
the cemetery and the road – still visible
as disturbed ground under the red and
silver Tiger Moth G-ANEN in the
photograph. The small Anglo-French
cemetery contains 300 burials from each
nation. The inscription in the cemetery
reads ‘That the world may remember the
common sacrifice of two and a half
million dead there have been laid side by
side soldiers of France and of the British
Empire in eternal comradeship’.

Serre Road Cemetery No.2
Our third site is Serre Road Cemetery
No.2, which is the largest British
cemetery on the Somme battlefield. It is
one of three Serre Road cemeteries –
and one of seven cemeteries marking the front line alongside the village of Serre. It was built on the site of a German fortified position known as the ‘Quadrilateral Redoubt’. In July 1916 the right foreground of the photograph was German-held, whilst the fields in the background were British-held. The remainder was no-man’s land. Serre was at the northernmost end of the British assault front of 1st July 1916. The cemetery was started in 1917 and contains over 7,100 burials, including some German graves. During World War II, two RAF pilots escaping back to the UK were hidden in the gardener’s hut at some German graves. During World War II, two RAF pilots escaping back to the UK were hidden in the gardener’s hut at this cemetery when German visitors arrived to inspect German graves.

Pozières British Cemetery, Ovillers-la-Boisselle

In March 1918, the Germans launched the Michael offensive on the Somme. It proved to be the last major German offensive of World War I. The German aim was to beat the British and provoke a French collapse. It was one of several co-ordinated German offensives along the length of the Western Front. In the Somme region the Germans moved rapidly westwards, re-taking ground that had been fought over at great cost 18 months previously. At Pozières British Cemetery, our fourth site, the wall that surrounds the cemetery forms a Memorial. It is dedicated to the 14,600 soldiers of the British Fourth and Fifth Armies who lost their lives on the Somme during 1918, for whom there is no known grave. These include members of the Durham Light Infantry and the Manchester Regiment. The cemetery contains over 2,700 burials from the UK, Australia and Canada.

Australian National Memorial, Villers-Bretonneux

As this German offensive progressed westwards during the spring of 1918, ground was re-taken across a 50-mile front. On 24th April 1918 the small town of Villers-Bretonneux was captured, lying on a low ridge within sight of Amiens. On that day, the world’s first tank-versus-tank battle took place within a mile of the town, fought between British and German tanks. That night, two Australian brigades and one British counter-attacked. By dawn the following day, 25th April 1918, Villers-Bretonneux was back in Allied hands. In a remarkable coincidence, three years previously to the day, the Australian Imperial Forces had landed at Gallipoli – on what is now known as ANZAC Day. The Australian National Memorial at Villers-Bretonneux, our fifth and final site, consists of a wall inscribed with the names of the 10,797 Australians who gave their lives on the Western Front who have no known grave, and a tower designed by Sir Edwin Lutyens. It is built on the ridge where the Michael offensive had been halted, and alongside the Villers-Bretonneux Military Cemetery. Allied forces then started pushing German forces back eastwards, leading to the signing of the Armistice just over six months later. The Australian National Memorial was the last of the Dominion memorials to be inaugurated, and was unveiled by King George VI in 1938. On 25th April 2015, the annual ANZAC Day Dawn Service was held at the memorial at 0500 hrs with a congregation of over 10,000.

Return to Compiègne

The final four sites appeared in quick succession; the formation flew over them all in just nine minutes. A combination of good lighting conditions and good formation positioning enabled the last three sites to be over-flown in a single pass.

Having completed the planned memorial over-flights, the Moth Squadron turned south for Compiègne in loose formation. From the air, numerous immaculate military cemeteries can clearly be seen, usually as white-walled rectangles in fields surrounded by crops. The Commonwealth War Graves Commission maintains all British military cemeteries to a universally high standard. The path of the Western Front can almost be visualised by joining an imaginary line between these cemeteries. Only from the air can the scale and layout of the front line be seen easily. As the formation headed south the number of memorial sites reduced, and the cemeteries faded into the distance.

As the aircraft approached Compiègne, the nine-ship formation was re-established and a single pass was made in formation over the aerodrome. After landing, the aircraft returned to their static display positions as part of the Meeting Aerien. The Tiger 9’s Commemorative Flight over the Somme battlefields of World War I was over.

On reflection, thundering over the fields of Picardy in one of eleven Tiger Moths in loose formation is probably the closest experience available today to that of flying in the Royal Flying Corps.
The weather was up to its tricks again for the rearranged fly in to Sandown for lunch and a visit to Airframe Assemblies. This time it was a north-south front moving slowly to the east making the trip very difficult for those east of the front, who all wisely decided to fly another day. Three aircraft based to the west of the front made it to Sandown, and rather than the strong crosswinds forecast, it was a benign 5kts across. As the advanced guard, the new airfield operator explained their plans to make Sandown the destination of choice for pilots, and the hot tub is already installed to be followed by a sauna, chill out area, hovercraft rides - in addition to the cafe which is now licenced. Overnight accommodation is being created in case pilots want to imbibe.

Airframe Assemblies (AA) moved to newer facilities on the north side of the airfield 3 years ago and have grown to around 20 staff. We were greeted by workshop manager Chris who kindly guided us around the facility providing many interesting insights to what they do. There were four aircraft in the fuselage jigs including a single seat and two seat Spitfire, and even a Seafire. A Spitfire fuselage or wingset take around 15 months, although it can be done in 12 months. It was interesting to see the major differences in the design for the Seafire. Naturally there is the tailhook and associated structure and strengthening at the tail. The other main difference is the use of stainless steel for the datum longeron. On the other side of the workshop were the wing jigs with wing in various states from spar only, completed D section and nearly complete full wing.

It always was said that Spitfire spars were the greatest problem to source but Airframe Assemblies have this down to a fine art of their skills and outside agencies for processes such as hardening. The bend on the inboard end of the spar for dihedral is applied by an hydraulic press salvaged from a local garage! No lock nuts here are the manufacturing design call for three punches to lock the nut. Whilst AA do most of the metalwork, each owner must supply the undercarriage pintles, a heavy component that is a challenge to fit accurately.

As well as manufacturing "new" components, they refurbish older aircraft, although the supply of gate guardians has virtually dried up. This work shows the difference between the high standards now, and the wartime volume production where rivet lines and spacing was often all over the place. Seeing pencil markings made by shop floor workers over 70 years ago linked past to the present.

We also saw the bucks and work in progress for the BBMF’s Lancaster engine cowlings. You may remember after its engine fire, it flew again relatively quickly, thanks largely to AA making a complete set of cowlings as a priority job. When the Lancaster goes in shortly for its major service, AA will be making the remaining three cowlings. Built to the Rolls Royce spec, they are much heavier than Spitfire components. Throughout the visit there were examples of the way aircraft were built by craftsmen rather than machine. For the Lancaster cowlings, this means it takes around two weeks to fit to the aircraft, as the final hole drilling has to be done after a trial fit on the aircraft, such are the variations.

After the very enjoyable and informative visit, and having thanked Chris, a short taxi ride saw the group having lunch at the seafront at Shanklin in glorious sunshine, the weather having continued to improve. Most took advantage of the seafood on offer and we are shared a couple of pints of prawns as a starter.

As there were only three aircraft and they were heading in the same direction north, a bit of formation flying was the order of the day, the routing including Southwick House (where D Day was planned and the decision taken to go) which is sadly being sold by the MOD.

Thus a lucky few had a very enjoyable day. I have already checked with AA and they are happy to host us next season for those who couldn't make it. Thank you to those that came - and also that made the correct decision not to fly through the frontal weather.
I was fortunate enough to gain wide experience as a flying instructor in the RAF, ranging from the elementary phase on a University Air Squadron (Bulldog, Tutor) through basic (JP, Tucano), advanced (Gnat, Hawk), multi engine (Jetstream) to Tactical Weapons and OCU (Hunter, Buccaneer) and CFS (Examing Wing). With yet another change to the RAF's pilot flying training system about to be completed with the full implementation of the contractorised Military Flying Training System (MFTS), I thought it might be of interest for Company members to read what has happened in the past.

Way back, over half a century ago, when I first started formal flying training as a pilot at the RAF College Cranwell, the RAF could proudly claim that it led the world with its system of 'all through jet' basic flying training for pilots. The Jet Provost had replaced the piston engine basic trainers, such as the Provost and Chipmunk. Student pilots started on the Mk3 version then moved on to fly the more powerful Mk4, completing a course of 180 hours for Cranwell students and somewhat less for direct entry pilots. There was then a split: pilots destined for fighters and bombers moved on to fly the Vampire T11, which was replaced by the Gnat T1 in 1963. Those selected for transports and maritime patrol aircraft flew the Varsity, which in turn was replaced by the Jetstream in the early 1970s. There was no grading or elementary flying training phase in this system, candidates being selected for pilot training solely on their aptitude scores achieved in initial recruitment.

When first tour pilots began to be selected for the Lightning an additional pre-OCU course in basic tactical flying and weapon delivery on the Hunter, was added to improve a student's chances of graduating to a complex combat aircraft; with the introduction in the late 1960s of the Phantom, Buccaneer, Harrier, Jaguar and later the Tornado, this course was included for all future pilots of these types. This system worked well but was not without its problems. The Jet Provost was considered by many to be too easy to fly, allowing individuals of limited ability to progress to the more expensive and difficult Gnat, with the consequent higher risk of failure. The Gnat, a lovely aircraft when it was serviceable, was short-legged and complex, earning the reputation of being an airborne emergencies trainer that could not venture far from the North Wales Area of Intensive Aerial Activity. The Hawk, a much more capable and reliable aircraft, replaced the Gnat in 1979. In the 1960s there was no ab-initio rotary option, and those who failed either the fast jet or multi stream courses were sometimes offered the chance of a bespoke rotary course. The expansion of the RAF's support helicopter force saw the introduction of a formal rotary wing option, with students leaving the Jet Provost course about a third of the way through to move direct to rotary training.

Then in the 1980s a Flying Selection Squadron equipped with the ubiquitous Chipmunk was established as an experiment, to see if a short course of elementary flying training could weed out those of low ability before they started flying more expensive and complex aircraft. At about the same time a study by CFS concluded that a basic trainer that would be more fuel efficient but with more demanding handling characteristics should replace the Jet Provost; the consequent competition resulted in the turbo prop Tucano being selected, which was claimed to have 'jet like handling' despite its large propeller. Thus the concept of 'all through jet basic flying training' came to an end.

In the early 1990s further cuts in the defence budget brought about by the Front Line First and Defence Costs Study reviews put further pressure on the RAF's flying training organization. A new system was established which started...
with an Elementary Flying Training (EFT) course of 100 hours, similar to that already employed by the RN and AAC. A Joint Elementary Flying Training School (JEFTS) was established to provide this course for student pilots of all three services. A civilian contractor provided the aircraft (which were on the civil register), and the majority of the instructors. The course length was eventually reduced to 60 hours and used the Slingsby Firefly. RAF-sponsored student pilots attending university were required to complete this course on their University Air Squadrons during their studies at university. However, it soon became apparent that their continuity was very variable due to the demands of their university studies, and there could be a long gap after they left university before they started on their next training course. As this put them at a considerable disadvantage compared to direct entry pilots a further change took place. All RAF EFT now takes place after student pilots of any background have graduated from their officer training at the RAF College Cranwell. Three Grob 115E Tutor-equipped EFT squadrons were formed, whilst JEFTS continued to provide elementary flying training for the RN and AAC, also now using the Tutor. The University Air Squadrons reverted to their original role of providing flying which did not form part of the formal training syllabus for a student pilot joining the RAF. The Tutor fleet remains on the civil register and the contractor provides its engineering support.

After the 60 hour EFT course student pilots were streamed to fast jet, multi engine or rotary. Only the students selected for fast jets go on to fly the Tucano at RAF Linton on Ouse. The fast jet training pipeline has also undergone considerable changes since 1990. Instead of an Advanced Flying Training School (RAF Valley) feeding two Tactical Weapons Units (RAF Chivenor and Brawdy), all equipped with the Hawk, a ‘Mirror Image’ scheme was introduced which had Valley and Chivenor providing an identical combined advanced flying training/tactics and weapons course; Brawdy was closed. Further reductions in the fast jet front line saw Chivenor closing and the end of the ‘Mirror Image’ scheme; the course is now only conducted at Valley, where the Hawk T1 has been replaced by the T2.

The multi-engine students continue their training on the contractor-provided King Air which has replaced the Jetstream at RAF Cranwell, before moving on to fly their front line types. Those selected for rotary training continue on helicopters at the Defence Helicopter Flying School at RAF Shawbury. The School provides training for all RAF, RN and AAC rotary pilots using contractor provided Squirrel and Griffon helicopters on the military register.

Thus there has been considerable change in the conduct of RAF pilot flying training over the last 55 years, both in its philosophy and equipment. All through jet training at the basic stage has been and gone, elementary flying training has been reintroduced and streaming into specialist roles now takes place very much earlier than in the past. This pattern of training is set to continue with the full implementation of MFTS but with significant changes in the provision of aircraft, instructors, synthetic training and service support. It remains to be seen how effective this system will be.
With the Honourable Company of Air Pilots having enjoyed past visits to various rotary strongholds including RAF Odiham, RAF Benson and RNAS Yeovilton, it was now our chance to see and learn about the Army Aviation Centre at Middle Wallop, the visit having been well planned and coordinated by Liveryman John Davy.

So it was that on Tuesday 11th October on a fresh but bright autumnal morning, some 20 members gathered for a 0900 start. Our amiable escorts for the day were Lieutenants Collings and Cole.

We were welcomed to Middle Wallop by Lieutenant Colonel Birkett, COS, who described the role of Middle Wallop, its history and its future. He went into some detail about the selection of air and ground crew, and gave a good description of the training process from ab initio through to front line squadron. This process is clearly tailored to provide the right men and women to operate the current WAH1 (Apache) soon to be replaced with Apache E models (Guardians) being acquired direct from Boeing through a recent FMS arrangement. Concurrently the Lynx fleet is being replaced by the new Wildcat.

Middle Wallop opened in 1940 is currently the largest grass airfield in the UK. It is home to 50 aircraft of which 30 are fully operational. In 1957 it became the base of the Army Air Corps (AAC). Increasingly Army pilots are now direct entry graduates who have a full AAC career but there are still opportunities from officers from other Regiments / Branches to be seconded to the AAC for pilot training and one flying tour. At present the centre handles over 1100 students each year, with a staff of some 350 full time military and civilian personnel, aided by around 400 contractors. All would-be pilots undergo the same flying aptitude tests and subsequent flight training regime:

- 13 weeks Elementary Flying Training at RAF Barkston Heath, which includes 47 hours flying the Grob Tutor.
- 13 weeks Basic Rotary wing training at DHFS, RAF Shawbury with 35 hours flying the Squirrel.
- 11 weeks Advanced Rotary Wing Training also at RAF Shawbury introducing instrument flying, night flying and low level navigation.
- Conversion to type of 26 weeks for the Apache, comprising 60 hours actual flying and 79 simulator hours. The Lynx course is 10 weeks, of which 23 hours is flying with 36 hours in the simulator.
- The full schedule over 81 weeks includes 233 flight hours and, allowing for leave, takes 26/27 months

We then split into 2 groups for more intimate visits to ATIL, ACTT, 670 and 673 Squadrons, and a close up inspection of the Apache.

Aviation Training International Ltd (ATIL) is a 50/50 joint venture between Boeing and AgustaWestland. We were shown a range of the training equipment which includes the only full motion simulators for the Apache. In the Mission Planning Suite - comprising fixed simulation devices with a visual system - we each had the opportunity to fly in both the Commander and Pilot stations. The Apache itself is quite easy to fly but the skill which the pilots learn is being able to manage the helmet-mounted displays, and to ‘fight’ the machine. Most of us are used to working one or two radios but Apache pilots are regularly working 5 boxes.

A briefing from 670 Squadron revealed their responsibility for the operational training phase of the Army Pilots course using the Squirrel and culminating in Exercise Cobra Strike, a week long exercise which takes place in a part of the UK unfamiliar to the student. The Cobra is featured on the Squadron emblem – motto - “In Silence We Strike.”

673 Squadron is responsible for conducting the conversion to type for
both newly qualified and experienced Army pilots on the Apache.

And so to the hangar. Unlike our visit to the Chinooks at Odiham, it was scarcely surprising that we would not be flying in the Apache! We were however given close access and a good description of the main characteristics, but some features are understandably sensitive.

Developed from a surprisingly old design from Hughes (later McDonnell Douglas) who contracted the UK program through AgustaWestland and now supported by Boeing, the Apache is currently the most sophisticated Attack Helicopter in the world. An all-weather machine able to operate day or night, capable of detecting, classifying, and prioritising up to 256 potential targets within seconds, and then dealing with them as necessary with a range of weapons. These include rockets, a chain gun, and of course Hellfire missiles. The Apache also has its own state-of-the-art integrated defensive aids suite.

UK Apaches are unique in being powered by Rolls Royce RTM-322 engines - being more powerful than the GE engines on D and early model US Apaches. The entire UK Apache fleet have the distinctive Longbow radar mounted above the rotor blades.

We adjourned for lunch to the Army Air Museum where we were served an excellent curry. We were also delighted to be joined by Colonel Jon Bryant, Commandant of the Army Aviation Centre. Master Elect Chris Spurrier thanked Colonel Bryant and his staff for a most enjoyable visit. Early in the day the Master Elect had presented a Company shield to Lt Col Birkett.

Visit to AAIB & TAG Aviation Farnborough

Assistant Rick Thomas

The sun shone on a crisp autumn morning with a cool and brittle breeze as we arrived at AAIB Farnborough for our Company visit. Our guests arrived after doing battle with the M25 and accidents blocking the M3. Once assembled in the meeting room we all settled down with a coffee to recover from the journey.

Our host for the day was Paul Hammond. His background is in military helicopter flying and commercial air transport fixed wing operations, before joining the AAIB. He welcomed us all, and spoke for about forty minutes describing the objectives of AAIB, and how they approach their work. We all hope that we will not have to come into contact with the AAIB in our capacity as pilots. However it is easy to forget that many of the things we do as pilots have been learned through the results of the painstaking work of the AAIB investigations. Every accident is a tragedy in itself yet aviation learns and promotes the lessons from each of them probably better than any other industry.

The role of the AAIB is to investigate civil aircraft accidents and serious incidents within the UK, its overseas territories, and crown dependencies. It is also there to provide assistance and expertise to international air accident investigations and organisations.

Paul emphasised that its purpose is to improve aviation safety by determining the causes of air accidents and serious incidents, then making safety recommendations intended to prevent recurrence. It is not to apportion blame or liability. Any legal proceedings as a result of an accident are a completely separate matter. The AAIB is not able to release protected air accident investigation records of its own accord. Only the High Court can allow for their release.

Typically an investigation begins with fact finding. Statements are taken (not under caution) and witnesses are interviewed. Interestingly Paul told us that pilots often make poor witnesses as they are inclined to put their own interpretation on events. Other important sources of information are such things as CVR and FDR recordings, radar data, radio traffic, met observations/reports followed by the wreckage and pathology reports. Even the data stored on GPS or iPad can be useful sources of information. Operational issues relating to the aircraft - documentation, ATC, regulations, pilot, crew and supervision - are also recorded. Operational contributory factors could be such issues as pilot background and experience, availability of training, shortage of flying hours available on type and actual versus perceived ability. (Big egos can be very unhelpful).

During the investigation, interim reports may be issued and significant issues highlighted. Once the investigation is complete a report will be published and recommendations made to prevent recurrence.

To illustrate the process Paul discussed the operation of historic aircraft and the requirements of CAP 403 & 632. He used some completed investigations to illustrate typical issues and how often human factors are a major contributory issue.

We were joined by Mark Jarvis from AAIB, and split in to two groups to visit the hangars and FDR laboratory. In the hangars we were able to see the wreckage from various contemporary accidents retrieved for the investigations. They all stood as a very salutary reminder of how unforgiving aviation at all levels can be when we get it wrong, and how narrow the dividing line can be between success
and disaster. It was interesting to hear how many physical clues to the causes can be found from different parts of the airframe and engines.

The FDR & CVR laboratory held a variety of fascinating examples of recorders, some from historic events. The work done here provides the investigation team with a great deal of valuable information about events leading up to an accident. After a very pleasant morning we repaired to the Army Golf Club just around the corner for a convivial lunch before our short drive to TAG Aviation Farnborough.

At TAG we gathered in the conference room where Roger Walker, the Director of Operations, welcomed us and provided an overview of their operation at Farnborough. (Anyone who has operated out of LHR may well have spoken to Roger in one of his previous lives working as ‘seagull’ and ‘checker’).

TAG Farnborough Airport Ltd bought the airfield from the MoD in 2003 and opened in 2008. Part of that contract meant an obligation to run Farnborough International Air Show for 25 years with an option available for a further 60 years.

TAG Aviation looks after its own Fire Fighting, Engineering and Ground Handling provision together with Aircraft Sales & Marketing. ATC at Farnborough is provided by NATS.

The operation has expanded over the years. The Master Plan shows objectives of up to 50,000 annual movements, including up to 8900 weekend/bank holiday movements, however growth seems to have plateaued in recent years.

TAG has clearly worked hard to engage with the local community through the Farnborough Aerodrome Consultative Committee to address their concerns. It also works hard to contribute to education in aviation. TAG are generous sponsors of one of the Honourable Company of Air Pilots’ annual PPL scholarships.

The Airspace Change Proposal (ACP) is clearly topical. The purpose is to create a new operating environment with elements of controlled airspace allowing the creation of SID s and STARs to offer greater predictability and consistency of operation. This has been through many iterations, each trying to address the concerns of local airspace users, particularly the gliding community from Lasham and Parham.

We enjoyed a tour of the terminal, which is a versatile space able to deal with small or larger groups. It includes a dedicated section of Border Force to deal with the usual customs and immigrations formalities. Our visit concluded with a visit to one of the hangars where some particularly elegant private jets are kept. The operation at Farnborough is clearly diverse, very busy and well run, dealing with everything from chartered aircraft to private owners using their own aircraft.

It was a fascinating day and we would like to pass our thanks to everyone at AAIB and TAG Farnborough who looked after us for their warm welcome and hospitality.

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Visit to 4 FTS RAF Valley, 5 October 2016

The Editor, Photos by the Editor and Liveryman Alan Jackson

There was some apprehension in the weeks leading up to this visit, as many of the potential attenders intended to fly in – understandable given the length of car journey from the Home Counties. British weather in early Autumn is rarely dependable. However luck was on our side, and an area of high pressure remained stationary over the North Sea for an unseasonably long period. So flying-in members enjoyed fantastic weather for their inbound trip, enlivened only by some aggressive mountain wave activity over Snowdonia. My particular flight had added interest as I was asked by my son to do some photo recce for him at Llanbedr.

Unlike our previous visit we were all accommodated in the Mess – the upside of declining student numbers, and the death of the military SAR force. Thursday morning saw a relatively bright bunch of members gathered at 4 FTS. The brightness was despite the efforts of Peter Greenyer to lead a crowd in card games late into the night…

We were given a very warm welcome by the Station Commander, Gp Capt Brian Braid, who loved Anglesey so much, he was on his fourth visit to Valley, which had just celebrated the 75th anniversary of its incarnation as a RAF station. Brian was the first of many pilots that day to express their pride in the Hawk T2 – “a world class jet” – also commenting that during a recent visit a senior US commander had acknowledged that the current training regime at Valley was 15 or so years ahead of their own. Gp Capt Braid was clearly enjoying his tour – his last before retirement from the service at year’s end.

OC Ops, Wg Cdr Paul Wharmby took us through the history of Valley (formerly RAF Rhosneigr), and claimed, to some suspicion, that it “had the best weather factor in the UK”, although he did admit it was “the only place with 50 knot fog”…..

As the training system has evolved to ensure that the Hawk T2 suitably emulates the Typhoons (to which its students graduate), 4 FTS needs large chunks of airspace. As we were to discover later, there are some issues about this, but Valley remains arguably the best located base in the UK at which to conduct advanced flying training. With the demise of the SAR force, 202 Sqn at Valley now conducts Mountain and Maritime rotary training for the Air Force. As with the resident Mountain Rescue unit, Valley is in just the right location.

4 FTS has an illustrious history, and Wg Cdr Wharmby took us through its highlights including the offensive action in 1941 in Habbiniya (by the way, very well related in AVM Gus Dudgeon’s Hidden Victory). It was this period that
gave rise to the unit’s motto “From the Sand to the Stars”. But the crucial date was the arrival of the Hawk T2 in 2009, and the retirement of the T1 earlier this year. So the Reds are most definitely now operating a legacy aircraft! “Wam” Wharnby declared that the new platform had “incredible potential”, which the unit was only beginning to tap. Somewhat hampering current operations is the resurfacing of the main runway (as we had discovered the previous day). This was the main of his many infrastructure challenges – that 50 knot fog has a habit of wearing away buildings, particularly in winter.

The advent of the new Military Flying Training System (MFTS) made our visit very topical. The arrival of the T6 Texan in 2019 (whose unit will move into the old SAR buildings), will mean that Valley will host two-thirds of the RAF’s fast jet flying training. As elsewhere contractorisation has been running apace, and civilians on the station now outnumber those in uniform by almost four to one.

Paul outlined at length the problems of managing, or rather utilising, the tracts of class G airspace to the South East, which form the main playground of 4 FTS. The creeping expansion of airways is clearly a headache, as is the absence of transponders in many of the gliders enjoying the mountain waves. The arrival of the T6 will make management of the circuit at Valley more challenging, and Llanbedr (now in civilian hands) may see more military traffic.

Somewhat unexpectedly, we then had a presentation from a dark blue aviator. Lt Chalky White, a QFI on 202 Sqn, took us through the role of his squadron, now reduced to just 2 Griffin airframes, after the well-publicised recent crash in Snowdonia. With engineering support from Cobham, and 50% civilian instructors (albeit ex-military), this squadron is again a modern construct. It trains rear crew as well as pilots/observers, and it was interesting to see the training methods employed to overcome any latent fear of the wire among winchmen. For pilots the one month course comprises 15 – 20 hours, which would appear to be very stimulating.

And so to the meat of the day, a briefing on the work of IV Squadron (an affiliated unit) by its boss, Wg Cdr Paul Mounsey, in tandem with Meirion (“Rossi”) Roscoe, the Station manager from Ascent. Paul had an interesting pedigree, including as a Harrier QWI and an F18 exchange tour in Canada, Meirion had a Tornado background before leaving for the sunlit uplands of BAe and then Ascent. Paul outlined the simple mission of MFTS – “to train world class fighter pilots” (omitting any need for pilots for heavies!). Its genesis arose from the 2000 National Audit Office report which identified that aircrew flying training was too extended, and there was an imminent capability gap in the UK training fleet. The new MFTS system procures training assets until 2033, and avoids any spikes in capital spending for the MoD’s tender capital budget. The accommodation of 4 FTS, in which we were sitting, provided an example – the £86m cost was well-spent, and indeed the IV (R) squadron crewroom was the most luxurious (and useful) I have yet encountered.

IV Sqn is unique in the future shape of MFTS in that it is the only unit in which the RAF provides the aircraft (as the T2s had already been procured). Lockheed Martin provide the sims; however the flying model is not completely up to date. But, at a stroke, the T2 has minimised the training gap between the FTS platform and the front line-jet. It is much easier to graduate to a Typhoon from a glass cockpit T2 than from an analogue T1. We assume the instructors at the Coningsby OCU are now having a much more relaxed time…

The squadron presently operates 28 aircraft, six Flying Training Devices (FTDs), and 2 full-mission sims. There is a commendable pupil/instructor ratio
with 36 QFIs looking after 30 students. Paul gave us a thorough briefing on the capability of the T2. With 2 mission computers, IN/GPS moving map nav displays, full NVG capability, HOTAS, HUD, 3 MFDs, TCAS, autopilot, GPWS, RADALT, it is light years away from the T1. Not forgetting OBOGS – an onboard O2 generating system. Pilots now use the force-wide HAMPA mission planning and briefing system.

The competitive (in a training sense) advantage offered by the T2 is the degree to which fourth generation fighter characteristics can be synthesised (at low cost). For example, it offers synthetic air to air radar (with other Hawks), allowing the teaching of F18/Typhoon tactics; a synthetic WVR – where threats can be inserted by the malevolent instructor (both at the planning stage and in the air); synthetic chaff/flare; synthetic AMRAAM, and so on.

Items missing, and therefore on the wishlist, include: helmet-mounted display; synthetic ground attack pod; and ground-mapping radar. Any upgrade of synthetic AMRAAM capability to e.g. the Meteor, would require another (and probably expensive) software update.

Students begin on A flight, where the syllabus comprises conversion to type, gaining an IR, navigation, close & tactical formations, night flying, ground attack, and basic fighter manoeuvring. Moving to B Flight, they cover basic radar usage, air to surface work, air combat manoeuvring, close air support, survival in a SAM environment, and so on. Paul noted that since half of operational flying is now at night, the proportion of night training has been ramped up. Sorties are usually 1 hour in length, and the squadron’s peak has been 50/day. He takes understandable pride that the “squadron has never missed an OCU slot”.

Whilst the joys of the T2 have been highlighted above, it was noted that it lacks the (modest) Air Defence capability that was enjoyed (but never used) by the T1.

Chop rates are modest at c10%, with very small numbers of leavers for other reasons. Looking ahead is fascinating. The current year will see c 30 students generate c 7200 flying hours. This is projected to grow at between 10 and 20% each year for the next two years. Then consider the future MFTS fleet (considered in more detail in Howard Wheeldon’s article).

The G120TP (retractable and turbo-prop) will carry out initial grading; thence to the T6 Texan (3 screens, 300 kts, and HOTAS), before moving to the Hawk T2, thence to the Typhoon. The first G120TP course is scheduled to start in December 2017 at Cranwell. The 23 airframes are targeted to generate 22,037 hours p.a., captained by a broadly equal mix of civilian and military instructors.

The first Texan course is slated to start in January 2019 at Valley. There will be only 10 airframes to cope with higher student throughput than is now flown by the 28 Hawk T2 airframes. Very high planned utilisation rates will provide a great challenge. SDSR 2015 is rather light on policy for training assets but the higher echelons of the RAF are still working through the implications of this.

What was most disappointing to members on this very interesting visit was the degree to which, despite the past criticism by the NAO, holding still mars the careers of our young fast jet pilots. There are competing priorities for OCU slots. Current graduates from 4 FTS face an approximately 6 month hold before going to the Typhoon OCU, however work is currently continuing to manage most efficiently the training pipeline and reduce holds where possible. Fighting the Typhoon is a young man’s game – its demands on physical fitness and mental agility are as great as with any machine ever in RAF service. It is sad that we are wasting some of the best years of our most capable pilots in this way. In my opinion this situation has partly arisen by the Air Staff’s turning off the recruitment and training tap at certain moments in reaction to fiscal pressures.

Having said that, potential graduates of 4 FTS are understandably still very keen to move to their operational squadrons on the Typhoon, or in rarer cases as yet, the F35.

Our final presentation was by Sgt Jon Burt-Matthews of Valley ATC, who outlined the problems of managing the Valley Aerial Tactics Areas (VATAs). Booking of military usage of this airspace is now centralised at Swanwick. Valley’s services are heavily used by civil craft, and Sgt Burt-Matthews was clear in the challenges of ‘negotiating’ with civil traffic in class G which were potentially in conflict with Valley inbound movements.

Members had the opportunity to see students using the Flying Training Devices, which are ideal for practising pairs work. Indeed at current rates of throughput, students have virtually unlimited time on these machines. We then were shown around live airframes, before the presentation of a plaque, and our journeys home, again thankfully in good weather.

We are very grateful for the commanders and staff of 4 FTS for giving us such a comprehensive view of their illustrious past, interesting present, and challenging future.
UK MFTS - The integrated training solution?

Freeman Howard Wheeldon

Whilst there has been a constant flow of articles on the UK Military Flying Training System (UKMFTS) since the MOD started the long process ten years ago of changing the way that military flying training would be done, this article will attempt to provide a broader background, evaluation, benefits and challenges that the new system of flying training provides to defence.

The background that led to the UKMFTS started as a NAO (National Audit Office) Report as long ago as 2000 that questioned the ‘value for money’ concept of how existing military flying training was then done by the various individual force elements – Royal Air Force, Royal Navy and Army. The MOD then conducted a strategic study that looked at process and conduct of flying training in detail. It concluded that core flying training was not only taking too long; that training costs were being increased due to high student failure rates; that there were too many delays in students moving through the various training elements required; and worse, that monitoring of training performance was very limited.

It was clear that change was needed and the decision was made that a whole force approach would be more cost effective. From this emerged a long list of specific requirements, but it was also recognised that it may take up fifteen years to fully deliver what would ultimately be called the UK Military Flying Training System – MFTS.

The plan envisaged that the MFTS process would eventually comprise all elementary, fixed wing and advanced fast jet flying training for RN and RAF pilots, rear-crew training, including ground school, introductory flying, elementary navigation and tactically orientated training for RN Observers, training for non-pilot aircrew, Electronic Warfare (EW) and Weapons Systems Operation (WSO); fixed-wing elementary training, multi-engine training and basic jet training, and finally basic and advanced rotary helicopter training.

The start point for the UK Military Flying Training System (hereinafter after referred to as MFTS) was to be a public/private partnership that, from the first contract award in 2008 to the Ascent Consortium (a partnership between Babcock International and Lockheed Martin), would require Ascent to be responsible for the ultimate delivery of all core military flying training for the RAF, Navy and Army.

Fast jet training was to be based on an eleven month course at RAF Valley, and was the first element of MFTS to go live in 2012. Using the very latest simulator based technology combined with live flying training, the first students graduated from the very impressive and expensive Moran Building (named after the late Air Marshal Sir Chris Moran) in mid-June 2013. It should be noted here that in 2003 the MOD had agreed a conventional procurement of 28 x BAE Systems T Mk2 Hawk Advanced Jet Trainer aircraft, all of which had been delivered by 2009 with all to be based at RAF Valley. (More details of this are in the accompanying article by the Editor).

Having been announced as preferred bidder for the 25 year PFI deal in December 2006 with contracts agreed and signed in May 2008, Ascent Flying Training wasted no time in pressing on with the vast amount of development work required. The MFTS competition award had been contested against the Sterling and Vector consortia, but Ascent was perceived to have the most innovative and cost-efficient solution. Inevitably, there were some delays and I recall that the process of getting coursework signed off by the MOD caused more than a degree of angst.

At RAF Valley, Ascent was contracted to provide the full training solution as set out in the Editor’s article. It is fair to say that the first MFTS stage took longer to bed in than was hoped, and that there were a number of teething problems such as contractor issues, periods of low aircraft availability, and a shortage of instructional resource. This stemmed from the negative impacts of SDSR 2010 impacting on the ability of the Royal Air Force to retain sufficient Qualified Flying Instructors (QFIs). However, suffice to say that by 2014 the partnership between Ascent and IV(R) Squadron was and is working well, despite retention problems continuing.

An almost reciprocal challenge with the maintenance of high training standards has been the exodus of highly-trained flying instructors to other nations. In particular, several Gulf states are able to offer a significantly better remuneration package to both Qualified Flying and Weapon instructors. Whilst this is not a new development, and could even be seen as an extension of capacity-building arrangements in place since colonial times, this does raise serious questions of long-term instructor quality. This, of course, then feeds back into the issue of maintaining high training standards throughout the entire flight training pipeline.

The evolution of the second stage of MFTS – fixed wing training – has been equally interesting to observe. The planned second stage fixed-wing MFTS package includes procurement of 23 Grob Aircraft G120TP, 10 Beechcraft T-6C and five Phenom 100s that will be used for all future elementary, basic and multi-engine pilot flight training, to start at some time in 2019. Until then the RAF, RN and Army flying training will continue to be achieved using a fleet of Grob G115E Tutor aircraft, Short Tucano T1s and, at RAF Cranwell, Beechcraft King Air 200/350 aircraft.

Ahead of this coming on stream, pilots that have successfully complete the Elementary Flying Training (EFT) process move on to different aircraft types and locations. For instance, those
destined for the fast jet stream will go to RAF Linton-on-Ouse on the ageing Embraer Tucano aircraft. Most then graduate to RAF Valley for advanced fast-jet pilot training with IV(R) Squadron where, as already mentioned, they will be immersed in the superb synthetics-based training system, and fly the T2 Hawk. Note here that with the T2 having a similar cockpit layout and instrumentation to that of both the Typhoon and F-35 Joint Strike Fighter, the aircraft is very well suited in respect of ease of transition of students through a final OCU.

There has of course been much discussion in relation to the fewer numbers of military trainer aircraft being acquired under the UK MFTS process than those that have or are soon to be replaced under the legacy training system. Having been forced to embrace such arguments, my own view is that synthetic-based training techniques and benefits have evolved so quickly over the past ten years that we have to accept that the extent to which students used to enjoy live flying training no longer necessary. This is not just about saving costs, it is equally about recognition that synthetic/simulation based training provides large scale benefits to students in respect of wide ranging mission training.

A roughly 50/50 basis of synthetic to live flying is now already well established within the fast jet training syllabus (and also at the Typhoon OCU). Of course, all trainee pilots will continue to do an extensive amount of live flying. At RAF Valley students are assessed by uniformed IV(R) Squadron QFIs and of course, live flying with a QFI will hone flying techniques in a ‘G’ environment that cannot be done in a simulator. But, as already said, it is the ability that synthetic-based training to provide conceptual flying training, along with mission training and the better ability for pilots assessment, that should not be lost. This latter reasoning has defined that the number of trainer aircraft to be used across all aspects of UK MFTS could be reduced. That said, the UK should in my opinion embrace International Defence Training better; it should aim to increase the number of domestic and foreign students going through the Valley fast jet training process, and this would require more investment.

Of note is that a great many foreign air forces including the French, German, Belgian and Danish air forces have visited RAF Valley to look at the joint operation between Ascent and IV (R) Squadron, and have been very impressed. Britain has a great opportunity here, and there can be little doubt that we lead in fast jet training capability.

Clearly, UK MFTS has also been designed to reduce training costs. To that end MFTS net investment to 2033 reduces from £6.8 billion in 2011 to £3.2 billion in 2016. Whilst cuts in SDSR 2010 play a significant part in this, new aircraft, enhanced facilities, and smarter procurement, have also played a part. With live flying hours already cut by 25% (synthetic based training activities and simulator use has not surprisingly risen from around 35% to 58% of the total) cost savings have also been generated by an almost halving of numbers of military instructors. Nevertheless, a key objective should be achieved with a sharp cut in time required to train pilots – fast jet training will for instance fall from 54 months to 28, and that of Multi Engine (ME) training from 19 months to 14.

As part of a PFI Contract awarded to Cobham in 1997, Rotary Wing (RW) pilot training for the RAF, RN and initial training for the Army is currently undertaken at the Defence Helicopter Flying School at RAF Shawbury. Here students fly the Eurocopter AS350 Squirrel before moving on to Multi-Engine Advanced Rotary Wing training using the Bell 412 Griffin HT1 helicopter.

With the final rotary element of UK MFTS having been confirmed earlier this year, from 2019 within newly built facilities that are currently under construction at Shawbury (a part of an announced £1.1 billion rotary wing training investment), students will begin to fly the Airbus H135 and H145 helicopters.

Clearly, UK MFTS has its challenges and these include taking in the planned increase in combat air power capability needs which were announced in SDSR 2015. The list is long and apart from a significant increase in training throughput requirement, and building in additional aircraft types such as the Boeing P-8 Poseidon and RPAS (Remotely Piloted Air Systems), base assumptions for MFTS, currently four, may need to be re-addressed. It seems to me that each of the current planned training stages in MFTS will need to be grown further.

The continuous need for acceleration, performance enhancement, and cost/time reductions, is being embraced by all parties to the agreement, and accountability and responsibility appears to be correctly built in. However, as ever, more will need to be done on this. An additional Hawk T2 Squadron at Valley may be required to meet the need for increased fast jet pilot training, stimulated also by embracing International Defence Training (IDT), and its very necessary and accepted part within the innovation and prosperity agenda. I cannot stress enough the need to embrace IDT more closely than at present, and, while my greatest concern through the MFTS process has been retention and the ability of the RAF to train and retain sufficient instructors, my larger concern has been about IDT. IDT should be a major interest of UK Government and I fear that not enough has been factored in to current defence plans. While international students are trained within the MFTS process I feel that not enough consideration is given to the importance of this in building relationships with other nations, and in increasing defence export potential to generate more income for the UK.

The problem as I see it is that the original MFTS contract was scoped at ‘sovereign requirement only’, with very little IDT built in. This needs to be incorporated into the MFTS system, and if it requires investment then so be it - they would easily be warranted by the potential returns. The point to remember here is that our international air force partners in NATO and our export customers still cite UK flying training as being ‘world-leading’, and they therefore continue to want our
training. What they want, need and deserve is to train with the Royal Air Force.

Agility and flexibility of UK MFTS is also yet to be fully tested, although, having been closely involved watching the development and operation of Ascent at Valley and their working alongside IV (R) Squadron, I have been very impressed by what has been achieved. Aircraft availability has improved markedly after initial issues, but the true test of flexibility and adaptability will perhaps be in how a PFI-based system reacts to increasing demands.

Many have questioned the wisdom behind changing the age-old system of fast jet flying training, just as they have also questioned the greater use of synthetic-based training. True, what remains of the old system appears to work well, and why on earth should we need to change a system that is time-proven and that has produced, and continues to produce, high-quality military pilots just as it has done for several decades past?

While many parts of the flight training system have worked well, an increasing number of operational, economic, risk and practical concerns had become very evident. Whilst synthetic-based training existed it was clear that from both an operational and cost perspective more investment in this area would produce huge benefits. Flying training also lacked a ‘whole force’ strategy approach and while operational output had long been the focus of military flight training, a significant training gap had emerged between a ‘trained’ standard, and the ‘operational’ standard. That gap manifested itself at the OCU level, their primary role being to prepare trained pilots to operate specific aircraft types and to develop the tactics specific to that type (e.g. air-to-air and air-to-ground, weapons and air-to-air refuelling). The civilian equivalent might be airline type ratings and line training.

Experience garnered from OCUs was interesting to observe, because it was saying that, increasingly, pilots did not have sufficient training on modern aircraft types (with glass cockpits) to get to grips with the demands of highly-complex modern front-line fast jet types quickly enough. This can easily be seen with longer training times at the OCU and higher failure rates. However, OCUs are not necessarily always set up with sufficient resources for the higher level of training required. Of course, in saying this one could not fault the pilots. After all, training in a 1980’s analogue-cockpit Tucano, or worse, a modified variant of the Bell 412 UH-1 “Huey” of Vietnam War fame, could not in the long term prepare pilots for the modern demands of the Typhoon or Wildcat. What was needed was a solution that provided modern aircraft for the training of pilots but also a system that relied far more heavily on synthetic-based flight training in specific aircraft types, and that could include full mission and operational aspects apart from aircraft handling. Whilst the number of actual live flying hours flown by trainee pilots would reduce, the intention was that greater use of synthetic-based training for mission and other operational based training would bridge the apparent training ‘gap’.

As within most other areas of Defence, substantial economic considerations have impacted as well. Pilot training was often being achieved on different contracts with different aircraft ownership, support, and training contracts. Responsibly for operation of training was often split between the military and the contractor. Quite rightly in my view it was thought that gains from economies of scale and through using industry alliances (similar to the Aircraft Carrier Alliance) on a whole force concept basis, would provide substantial cost savings. There was also a case for shifting more of the responsibility for aircraft maintenance and ownership into the commercial sector. For example, while the Valley-based Hawk aircraft are owned by the MOD, the new helicopters that will be acquired for the DHFS will be contractor-owned and operated. In my view, provided that assets acquired under any training based contract are non-front line aircraft, then this would seem to be a very sensible step.

Neither is it an understatement to say that the majority of trainer aircraft and helicopters used in the older training system were overdue replacement. With spares at a premium and little redundancy, some of these aircraft will be forced to carry on flying for a couple of years yet. Indeed, with SDPSR 2015 having recognised the need to train more pilots, these same aircraft will need to work even harder - particularly the Tucanos at RAF Linton-on-Ouse.

Another issue which the designers of UK MFTS system have yet to fully recognise is the requirement to consider the likely increase in Remotely Piloted Air Systems (RPAS), and the associated training requirement. Two decades ago RPAS did not exist as a UK capability, but today a logical training format to increase the number of RPAS pilots is clearly needed. Though the regulations are still being developed by the CAA, it is highly likely a more efficient process can be found for RPAS operators than just using former military pilots.

It is now eight years since the first part of UK MFTS plot training system was first awarded to the Ascent Consortium. Once fully established by 2019, the Ascent UKMFTS will be the most comprehensive PFI flight training system evolved. Significant new infrastructure has or will be built at the various RAF airfields. The much higher use of synthetic-based training envisaged will allow pilots not just to perfect flying techniques, but to be given much better mission training.

So, will this radical and complete overhaul of the UK Flying Training System work? One thing is for sure, we could not stand still and change was imperative. The front-line aircraft and the modern battlespace are changing rapidly - our training has to reflect that. In hard-pressed economic times for Defence, this balance of commercial involvement and risk would seem to represent the best value, accountability and operational output for HMG for many years to come.