### Diary

**OCTOBER 2015**
- 15: 6th General Purposes and Finance Committee Meeting
- 22: Benevolent Fund Board of Trustees Meeting
- 29: Trophies and Awards Banquet

**NOVEMBER 2015**
- 13: Silent Change
- 14: Lord Mayor's Show
- 16: Lord Mayor's Banquet
- 19: 7th General Purposes and Finance Committee Meeting
- 19: 4th Court Meeting
- 19: Scholarships Presentation

**DECEMBER 2015**
- 17: New Members’ Briefing
- 17: 8th General Purposes and Finance Committee Meeting
- 17: Carol Service
- 17: Christmas Supper
- 18: Office closes

**JANUARY 2016**
- 4: Office opens
- 12: Trophy and Awards Committee Meeting
- 14: Benevolent Fund Board of Trustees AGM
- 21: 9th General Purposes and Finance Committee Meeting
- 21: 5th Court Meeting
- 21: Court Election Dinner

**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 Company website for visits that are to be confirmed.

**FLYING CLUB EVENTS**

**OCTOBER**
- 4: AGM and lunch, White Waltham
- 11: End of Season Lunch, White Waltham

**GOLF CLUB EVENTS**
Please check on Company website for latest information

Cover photo: The Martin Aircraft Company Jetpack airborne in free flight, a flying machine reminiscent of a scene from a James Bond film. The story of this most interesting aircraft project can be found on page 23 of this issue. Photo courtesy of Martin Aircraft Company, New Zealand.

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**AIR PILOT**

**THE HONOURABLE COMPANY OF AIR PILOTS**

**incorporating**

**Air Navigators**

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

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

**MASTER:**
Squadron Leader Chris J Ford MBE

**CLERK:**
Paul J Tacon BA FCIS

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

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

**EDITORIAL CONTRIBUTIONS:**
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A message from your Editor...

It is well known that air displays are apparently second only to football matches as popular events for large audiences. The tragic events at Shoreham have highlighted the issue of air display activity impacting on those who may choose not to pay to go in but find a suitable viewing point outside, and those who are simply going about their daily lives such as drivers and passengers on nearby roads. Doubtless the CAA will be addressing this issue which is bound to have an effect on a number of air display sites; the Company could well contribute to this debate. As a regular member of the Flying Control Committee at Duxford and occasional Flying Display Director at Old Buckenham I shall watch developments with considerable interest.

This issue has again a diverse variety of articles to educate and entertain. Continuing with the Battle of Britain theme, my grateful thanks go to Past Master Cliff Spink who describes flying the Spitfire Mk1: imagine how challenging this must have been to an inexperienced pilot 75 years ago with the additional stress of air combat. Thanks also go to Upper Freeman Peter Coker from New Zealand for his description of the intriguing Martin Aircraft Company Jetpack, something straight out of a James Bond movie. Liveryman John McAdam describes the first Channel crossing by an electric engined aircraft that took off and landed under its own power; modern fast jet flying training at RAF Valley by one of our affiliated units, No 4(R) Squadron, is the subject of Freeman Ben Griffiths' article. Freeman Ron Gammons has contributed a piece on this summer's Vintage Air Tour to France and the IPM tells how she and 3 others from the Court were entertained on a voyage in HMS Ocean.

My thanks also go to other contributors, too numerous to mention, who regularly provide me with copy for Air Pilot.

With autumn already with us and winter fast approaching there is plenty of time for you all to write up those aviation experiences from the departed summer and send them on to me for the December issue. I look forward to seeing many of you at the Trophy and Awards Banquet.

Liveryman Tom Eeles
Honorary Editor
News Round Up

LADIES’ VISIT TO THE LONDON AIR AMBULANCE CHARITY, TUESDAY 14 JULY

Sue Jones, the Master’s Lady, reports. The August edition of Air Pilot contained the fascinating account of the men’s visit to the London’s Air Ambulance (LAA) in May. Captain Neil Jefferies had kindly extended an invitation to the ladies and so on 14 July a group of 18 gathered on the ground floor of the Royal London Hospital in Whitechapel. After welcoming us Neil led us through to one of the briefing rooms where he explained the history, role, and function of the LAA, which was established in 1989, and its primary objective - to work with the London Ambulance Service and to deliver immediate trauma aid to the patient at the scene of the incident. The LAA has an excellent website which details a considerable amount of information so, together with Colin Cox’s account in August’s Air Pilot, I shall not repeat all the facts here. However it was impressive to hear that the helicopter can be airborne in 4 minutes and has priority over any other aircraft flying in London’s airspace (even the Red Arrows en route to fly over Buckingham Palace!!). The helicopter is serviced after 50 hours of flying which means that during its absence there is no LAA coverage, hence the urgency for a second helicopter.

The ladies listened intently to Neil’s briefing and followed up with very good and relevant questions - in fact there were so many that we slightly ran over schedule! It was interesting to learn that the aircrew themselves receive medical training and Neil certainly was au fait.

BENSON FAMILIES DAY

Assistant Dacre Watson writes: All Company Liaison Officers will have received an Email from the Master in which he outlined the role of the Company Liaison Officers in keeping in touch with the various Units with which we, The Honourable Company of Air Pilots have an affiliation.

The most recent Unit to become affiliated with the Air Pilots has been RAF Benson through the groundwork conducted by Liverymen John Davy, David Curgenven and Paul Nicholas with Squadron Leader Christian Royston-Airey who is stationed at RAF Benson. In order to acknowledge the affiliation the Station Commander of RAF Benson, Group Captain Simon Paterson, very kindly invited members of the Air Pilots to be his guests at the RAF Benson Families’ Day on 20th August and to which some 22 members, including The Master, attended. It was a splendid day out for all concerned and gave everyone the opportunity to meet and chat with many members from all three services currently serving at the base.

The new relationship was cemented during the early part of the day when The Master presented Group Captain Paterson with a Certificate of Affiliation and this was followed by a spirited air display which, despite the weather, included the Vulcan and Red Arrows.

Our thanks go to Group Captain Paterson and Squadron Leader Christian Royston-Airey for their kindness and welcome to RAF Benson and we look forward to a future of close liaison to everyone’s mutual benefit.

The Master and Assistant Watson present the Certificate of Affiliation
with much of the medical terminology. He also kept us well up to date with any gruesome pictures about to be shown, so that we could close our eyes if required! Also fascinating was to hear about the rigorous selection process which the medical team on board (one Doctor and one Paramedic) have to go through. I am sure the aircrew face a similar selection process given the very nature of flying within London and often having to land within the confines of what Neil described as 'a tennis court'. Fortunately, and perhaps for this very reason, the helicopter has no tail rotor!

After Neil's excellent briefing, it was time to visit the actual offices and helipad on top of the hospital. We were all hoping that the helicopter had not been scrambled whilst we were in the briefing and so were relieved to find it waiting for us. Tommy, one of the Paramedics, who was in his final month of service in the LAA, soon joined us and he briefed us on his role and the equipment in the helicopter. We soon appreciated the difference between the LAA and other Air Ambulance services around the country and the huge benefit it provides in delivering what could be described as a mini hospital to the patient - and the medical team having to deal with anything ranging from broken limbs through to performing open chest surgery. This can be carried out anywhere in London's 600 sq miles, whether at a roadside, a train station or even deep in the Underground. It was a sobering thought hearing just how many sorties the team flew on 7 July 2005 (18 sorties, dispatching 27 doctors and paramedics and medical supplies to the bomb sites) when immediate medical response was so critical to deal with the terrible injuries caused by the London bombings.

After a photo session with Neil, Tommy and the helicopter, it was time for a tour of the LAA offices and to see the crew and medical teams both at work and in relaxation mode. At the end of the visit I presented Neil with £400, kindly donated by the ladies, in support of the appeal for a second helicopter. During Neil's briefing we had learnt that almost £4m had already been raised but a further £2m was still required to acquire and sustain the second aircraft and extend daylight flying hours for five years.

The ladies completed the visit with a lovely lunch and a drink at the nearby Urban Bar.

A huge and sincere thanks must go to Neil, Tommy and all at the LAA for such a fascinating and unique visit. We all felt so honoured to be invited and left with such a wealth of information. Neil and Tommy are to be praised for looking after 18 ladies so well and the LAA certainly has to be commended for their outstanding and valuable work and support to the people of London. A couple of days after our visit I was on a train heading into Waterloo when I looked up and saw the red helicopter flying over the area. It was so comforting to know just what it and the team on board could do - and that someone might just have benefited from such a vital service.

**GUILD OF AVIATION ARTISTS’ ANNUAL EXHIBITION AT MALL GALLERIES - 2015**

Liveryman Dr John McAdam reports that the Guild of Aviation Artists held their 45th annual art exhibition at the Mall Galleries from Monday the 20th July until the 26th July. This year the Aviation Art exhibition was opened by The Right Honourable Geoff Hoon MP, the Secretary of State for Transport and former Defence Secretary. This year proved a record for the Guild of Aviation Artists' annual exhibition with 453 aviation paintings exhibited by a total of 150 aviation artists.

Graham Cooke, the Chairman of the Guild of Aviation Artists, welcomed the guests and thanked the exhibition organisers and all the sponsors, in particular Agusta Westland in this their centenary year. He then introduced the President of the Guild of Aviation Artists, Michael Turner, who added his words of welcome to the assembled guests and introduced The Rt Hon Geoff Hoon. In his introductory address Michael Turner spoke of Geoff Hoon and his connection with both the aviation industry and his passion for aviation art. Finally, Michael Turner spoke admiringly of Colin Ashford who at 96 years of age was the Guild of Aviation Artists' oldest Founder Member and in March this year he celebrated the 75th anniversary of his evacuation from the beaches of Dunkirk where he sustained a leg wound.

Geoff Hoon in his address spoke passionately of his love of Aviation Art, He spoke eloquently on the long history of the Westland Aircraft Company and thanked the Guild for its support towards the centenary celebrations. In particular, for the outstanding response for images for inclusion in the 'Art of Flight' book which was published entirely in the aid of charity. He appreciated how difficult it was to even draw let alone paint aeroplanes admitting that as a boy he had tried very hard but without a great deal of success. He then declared the Guild of Aviation Artists' Exhibition for 2015 at the Mall Galleries open.

Air Chief Marshal Sir Glenn Torpy, the Guild Patron, spoke of the plethora of anniversaries that are being celebrated. The 100th anniversary of the start of WW1, the 200th of the Battle of Waterloo and the 70th anniversary of the end of WW2 with the surrender of Japanese forces in the Far East. He continued by looking immediately ahead with the 75th Anniversary of the Battle of Britain and on the 1st April 2018 the 100th Anniversary of the formation of our Royal Air Force. All these milestones in the history of the World's first independent Air Force will no doubt provide a very fertile source of material for the Guild of Aviation Artist's members.

He presented the BAE Systems 'Aviation Painting of the Year' prize of £1,000 for the best painting of the year to Terry Akehurst for his oil on canvas 'No. 4 Final Checks - Westland Whirlwind'. The Highly Commended were Graham Turner for 'Albatros behind British Limes' in oil, Anthony Cowland, for 'On the Ridge, Sopwith Tabloid' in oil and...
Graham Henderson for 'Landfall at Coningsby, the Canadian's welcome' in pencil.

Mrs Alison Saunders presented the FlyPast Magazine Fellows Award for Excellence of £1,000 to Roger Middlebrook for 'Air France at Croydon, Wibault Trimotor Golden Clipper', in acrylic. The highly commended prize was awarded to Chris Draper for 'Sir Keith Park, a Bronze Bust by Leslie Johnson' in oil. Captain Eric 'Winkle' Brown, R.N, presented Anthony Cowland with the Sir George Edwards Memorial Plate, which was awarded for the work which best depicts and reflects excellence and achievement in British Aviation. In presenting the award, Eric mentioned that he had known Sir George extremely well and spoke very highly of his achievements. The guests responded with enthusiastic applause.

AIR PILOTS LONDON SCHOOLS GLIDING REPORT AUGUST 2015

Assistant John Towell reports that the 2015 gliding season is now underway at both Dunstable and Lasham. In addition Booker Gliding Club which is also a BGA young gliding centre has recently joined the Air Pilots London gliding scheme. A busy programme was planned for 2015 but the weather this summer has not been very kind with several days unsuitable for gliding. Some schools have rebooked for September and fingers are crossed for better weather!

Over the past months improvements have been made to both the London Schools gliding scheme and the Air Pilots London Schools Gliding Scholarship. The management and promotion of the Gliding Scheme and Gliding Scholarship schemes now fall within the remit of the Aviation Careers and Education Committee. Help is required to liaise between the Air Pilots and London schools and co-ordinate the allocation of gliding days. If you are interested and would like further detail please contact John Towell at jptmoth@gmail.com. The Air Pilots will continue to appoint a member to the Livery Schools link committee who will help liaise with the other Livery Companies who join us in supporting their affiliated schools within the Air Pilots London Schools gliding scheme.

The gliding scholarship has been renamed the Air Pilots London Schools Gliding Scholarship. The previous title, the Livery Schools Link Gliding Scholarship, was not an accurate description. The funding comes from the Air Pilots Benevolent Fund, the organisation and selection for this scholarship comes from within the Air Pilots. It makes sense that Air Pilots get appropriate recognition. The scholarships are open to students from all London schools. The selection process for this scholarship is undertaken by the team who deal with other Air Pilots scholarships. The Air Pilots choose which gliding schools the students may attend and this summer scholarships have been run at both Dunstable and Lee on Solent.

There will be a report on the various Air Pilot scholarships and awards in a later edition of Air Pilot magazine. The scholarship winners will be presented with their certificates at Cutlers' Hall following the Court meeting in November. For 2016 there is scope to improve the advertising and promotion of the scholarship scheme to students to get more applications. The current system has not been picked up with enthusiasm by all teachers and a more effective way of promotion needs to be developed. Previous scholarship winners might be used as role models to make more students aware of what is possible. It might also be useful if some more of our younger members were to become involved to engage with school students.

RAY JEFFS CUP - CHARITY GOLF DAY

Assistant Rick Thomas reports that the 16th annual Ray Jeff's Cup took place at Hartley Wintney on Thursday 23rd July, attracting 18 teams from 14 Livery Companies. The event was blessed with good weather and everyone enjoyed a very relaxed golfing day.

The Ray Jeffs Cup has established itself as a very enjoyable and sociable competition for Livery Companies as well as a successful charity event. It is run under the umbrella of the Livery Schools Link Committee and in its first 15 years over £52,000 has been raised for Duke of Edinburgh's Award London, helping 37 schools in the Greater London Area to set up or fund D of E schemes. This year numbers were down on last year but 18 teams from a variety of Livery Companies entered the competition, several companies entering teams also made generous additional donations to our charitable fund for which we are extremely grateful. In this year's event the defending champions, the Turner's "A" Team, scored a very creditable 92 Stableford points but they were beaten on the count back by the Air Pilots Team 1 of David Gilson, Jeff Turner, Peter Kirtley and Rick Thomas, who were the winners of this year's Ray Jeffs Cup. (The Cup was sadly missing from the proceedings due to an oversight by the Turners who must have expected to retain the trophy again?)

The International Bankers once again were very competitive but on 89 points were beaten on the count back by the Distillers who took third place. The Air Pilots' Court Team aided by Gil Gray as a late replacement scored a creditable 82 points. The Air Pilots' Team 2 suffered the loss of Sir Paddy Hine whose car broke down en-route meaning he was unable to reach Hartley Wintney. As a result, they enjoyed a slightly less successful day.

The individual 1st prize was taken by Paul Hobson from the Distillers with a fantastic score of 41 points which, playing off a handicap of 6, shows he played a very solid round of golf indeed.

My sincere thanks must go to John Mason and Bob Pigg who both dealt with the scoring and administration on the day in their usual quietly competent manner. Thanks also to my wife Pam for being an outstandingly successful seller of raffle tickets to help the fundraising. Our thanks go to all the golfers who took part for their generosity again this year and to BAE Systems Warton who offered for us to auction, a visit for two people to their site to include a visit to the Typhoon Active Cockpit Rig simulator. Our sincere thanks also go to the eventual winner of the auction; Liveryman Paul Nicholas for his generosity in bidding.
Despite fewer entries, once the final accounts are settled we should be able to make a contribution to the Duke of Edinburgh Award London of more than £3,000.

LUNCHEON CLUB AND SIR FREDERICK TYMMS MEMORIAL LECTURE

The Company’s Luncheon Club met at the RAF Club on 22nd September when diners enjoyed an excellent meal of Smoked Salmon, Roast Rib-Eye of Beef with Yorkshire Pudding, Chocolate Gateau, Coffee and Petits Fours. They were then entertained by Assistant Dacre Watson who talked of his book on the story of Aden Airways, a fascinating story. Later the same day the Company’s annual Sir Frederick Tymms Lecture took place at the Headquarters of the Royal Aeronautical Society, 4 Hamilton Place. The subject was ‘Technology and Military Capability’ and the speaker was Air Marshal Sir Stephen Hillier KCB CBE DFC MA RAF. A full report will appear in the next issue of Air Pilot.

BOOK REVIEW, ‘FROM ESSEX TO EVERYWHERE’.

Readers will recall the review of this book in the last issue of Air Pilot. Captain David Willmott, the author, has advised that anyone interested in purchasing a copy should contact him direct, please call 01934 732171, or e-mail thewillmotts@tiscali.co.uk.

ATtribution, ‘WHERE HAVE ALL THE PILOTS GONE’.

This article, which was reproduced in the August issue of Air Pilot, was originally published in the American Aviation Historical Society Newsletter and was reprinted with the Society’s permission.

Gazette
Approved by the Court 17 September 2015

Admissions

As Upper Freeman
Group Captain Peter Averill BEDFORD
Captain John Esmond CUTHBERT (NA)
Lucas DOWD (AUS)
Flight Lieutenant James Edward FORDHAM
Captain Yvonne Geraldine KERSHAW
Victor Hon Ying LEUNG (HK)
Captain Ronald Wayne MANNING (NA)
Kai Oliver MAURER
Laurence John PRINTIE
Dale Vincent REYNOLDS
Captain Brian Matthew SHAW (NA)
Captain Warren Mortimer STEWART (AUS)

As Freeman
Peter Arthur DANIELS (NA)
Ian ILSLEY (OS)
Brett Robert NICHOLLS (NZ)
Glen Anthony ROSS (NZ)
Gordon Stephen TESSIER (NA)
David Bide WEBB (NA)
Charles Roy WHELDON

As Associate
David Barry FULLER (AUS)
Marianne Severina HOVDEN
James Alexander Seymour INNES (OS)
Philip JONES
Umar Mohammad KHAN
Leah Sonia MANSFIELD
Laura Jayne McCANN
Andrew MUTTON (OS)
Michael NEILSON

Reinstatement

To Upper Freeman
Peter ANTONENKO (AUS)
Lieutenant Colonel (ret’d) Maryse CARMICHAEL (NA)

Deceased

Lord Adam CHETWYND (OS)
Bernard Geoffrey Arthur DEAL
Michael John Ascroft GLOVER
Douglas Coulton NOLAN (AUS)
Captain Alan Edgar QUINTON
Captain Gordon VETTE (NZ)
Captain Keith Michael WEBSTER

Resignations

Kreisha BALLANTYNE (AUS)
Robert BRYAN
Marcus COOK
Henry DAWSON (AUS)
Peter DOERY (AUS)
Christopher JONES (AUS)
Annelise LA ROCHE (NZ)
Ronald LOGAN (NZ)
Bianca MacDONALD (AUS)
David MACDONALD (AUS)
Paul NEWTON (NA)
Derek PEARMUND
Sally SCOTT (AUS)
Clodoe SEYMOUR
Clare TECTOR
Susan THORNE
Jean TINSLEY (NA)
Blair TURNER (NA)
Carl VAN AKEN (AUS)
Leslie WOOTTON

Forfeit All Benefits

Susan D’ATH-WESTON (NZ)
Thomas FARRANT
Mark GILBERT (NA)
Travis HAMILTON (NA)
Joseph HINCKE (NA)
Edward HOIT (NA)
Christopher HOPE (NA)
Paul KEDDY (NA)
Michael KURTH (NA)
Michael LAVELLE (NA)
Carl MAGNUSSON (NA)
Douglas NEILL (NA)
Alan SANDERS (NA)
Robert TOMKOW (NA)
Mark TORRES (NA)
Michael YOUNG (NZ)

Lunchen Club and Sir Frederick Tymms Memorial Lecture

The Company’s Luncheon Club met at the RAF Club on 22nd September when diners enjoyed an excellent meal of Smoked Salmon, Roast Rib-Eye of Beef with Yorkshire Pudding, Chocolate Gateau, Coffee and Petits Fours. They were then entertained by Assistant Dacre Watson who talked of his book on the story of Aden Airways, a fascinating story. Later the same day the Company’s annual Sir Frederick Tymms Lecture took place at the Headquarters of the Royal Aeronautical Society, 4 Hamilton Place. The subject was ‘Technology and Military Capability’ and the speaker was Air Marshal Sir Stephen Hillier KCB CBE DFC MA RAF. A full report will appear in the next issue of Air Pilot.

Book Review, ‘From Essex to Everywhere’.

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The Master’s Message

SQUADRON LEADER CHRISTOPHER FORD

The summer is now well over and we have seen some fine weather and great flying days. The Display Season is also coming to an end. Sadly we have lost one pilot and another very seriously injured; worse still, the Shoreham accident involved innocent people, many of them driving past the airfield and not at the event itself. Our heartfelt sorrow must go to all the families who have lost loved ones and we hope and pray for the recovery of those who, at the time of writing this Message, remain in hospital. The CAA was quick to respond to public concern over the risks involved. Let us hope that any future recommendations are proportionate so that there will continue to be opportunities for both aviators and the public to enjoy the thrill and spectacle of watching aircraft, both modern and vintage, fly to their optimum capabilities. I hope that Lord Tebbit’s article in the Daily Telegraph in late August, in which he suggested that the Shoreham crash might put an end to all high energy aerobatics at air displays, will not come to pass. We all know that these events are partly held to display aircraft at their best, not to prove the excellence of the pilots who fly them. Display flying is an art form and we must ensure, through the British Air Display Association (BADA), that the highest of standards of safety and flying discipline are maintained.

It is with twinges of sadness and the fondest of memories, that this season is the last time that we will witness the Vulcan in our skies. With the cost of maintenance becoming prohibitive the last call of “finals three greens” has been made. I first remember seeing a Vulcan B1 (XA903) at Farnborough in the late ‘60s fly with an Olympus engine (destined for Concorde usage) mounted in a test bed on the centreline. Then whilst on holidays in Cyprus I would often sunbathe on Episkopi Beach and witness 21x1000lb bombs splash into the Mediterranean from an unseen Vulcan bomber high above. I was on Ascension Island on the night of 30 April 1982 and saw the formation of Victor Tankers and the two Black Buck Vulcans depart to ‘visit’ Port Stanley. Later, a couple of years after the Falklands Campaign, I flew a few refueling sorties behind Hose Drum Unit (HUDU) modified Vulcans, which were a stop–gap after the retirement of the Victor and before the introduction of the VC10 and Tristar into the RAF’s AAR fleet. Ever a graceful aircraft and always a crowd puller when on display, XH558 will be missed by her many fans. But some 60 years since its design concept the time has now come to say farewell to the ubiquitous ‘flat iron’.

This September we celebrated the 75th Anniversary of the commencement of the Battle of Britain. I was pleased to be able to attend the annual B of B Dining In Night at RAF Northolt and honoured to be invited to attend and represent The Company at the Service of Thanksgiving and Rededication at Westminster Abbey. Past Master Michael Fopp’s excellent and thought provoking article in August’s Air Pilot, which asked the question “Did we win the Battle of Britain?” certainly educated many of us. With a good insight into the strengths and weaknesses of both sides, it pointed out that it was not only the RAF’s superiority but the Luftwaffe’s arrogance and assumption that it would win air superiority within weeks which proved to be the deciding factor. It was a pleasure to witness this Anniversary being commemorated by so many restored and rebuilt Spitfires, Hurricanes and Me109s at Duxford earlier in the month. As Michael reminded us, this will probably be the last major Anniversary to be attended by the ‘last of the Few’. We do owe them a debt of gratitude for their valour all those years ago.

The dust has also settled after the release of the Davies Commission report on the need for a Hub Airport of a sufficient capacity in the South East. With an outright rejection of a new airport in the Thames Estuary, a thought that expanding Gatwick would only really enhance short haul and not advantage International destinations, expansion at Heathrow was then considered the only option. The extension of the northerly runway to the west, a proposal championed by Past Master Jock Lowe, was only going to increase the capacity to 700,000 movements a year whilst the third northerly runway option would enable the capacity to rise to 740,000 movements a year. The increase in the number of people affected by noise will be far greater than would be the case at Gatwick – a problem that might be mitigated by introducing new steeper approach profiles. There is currently running, until mid March next year, a 6-month trial at Heathrow to allow suitably equipped and able operators to fly a 3.2-degree glidepath. I personally am not convinced that the general public will appreciate the noise reduction gained by the extra 21.5ft/per mile in altitude, which the aircraft will be at as they descend into Heathrow. I would be far more convinced by quieter engines and less of a population under the flight path. Sadly, I feel that this will not be the end of the procrastination. Willie Walsh has stated that he is against the proposed development and the Tory MPs for the contiguous voting constituencies are threatening rebellion. Those MPs close to Gatwick are keen for the expansion to take place at Heathrow and not on ‘their patch’. Let us hope there is no referendum on this matter – after all, why do we vote a government in? but action must be taken to ensure that we have a Hub Airport fit for purpose into the late 21st Century, better sooner than later, and for the benefit of the whole country. Steep approaches have often been a challenge for pilots who are used to a normal 3-degree glide path. Those of you who have operated into London City will know what I mean! Many years ago during the Vietnam War the USAF would spiral down to approach their landing strips from altitude to avoid small arms fire. The last 1000ft was often at an angle in excess of 10 degrees. This did ensure the safety of the aircraft and occupants. The RAF SF crews often demonstrated this last 1000ft technique (called a Khe Sanh approach) during...
tactical demonstrations at air shows. It did prove popular and was even spectacular from inside the cockpit!

In the early '90s crews from RAF Lyneham were tasked to support the UNHCR and take supplies into war torn and beleaguered Sarajevo. Given the Operation name ‘Cheshire’, initially these sorties were mounted from Zagreb and flown via Pula and Split into Sarajevo. The round trip was just over 2.30 hours. As the weeks progressed the mission moved to Ancona in eastern Italy to reduce the flying time and avoid active Missile Engagement Zones. Other nations involved were Canada, France, Ukraine and the USA. The arrival intervals at Sarajevo were in 15-minute slots and coordinated from Geneva. Initially high speed visual approaches were the order of the day and separation achieved by mark one eyeball. Both these facts had a degree of risk involved. The first because the terrain around Sarajevo was mountainous and a normal descent would put the aircraft in small arms range and the visual separation was inadequate as often it would not be VMC. To overcome the latter the French Air Force eventually installed a tactical radar which could assist with let-downs and minor deconflictions - but it was never able to allow simultaneous arrivals and departures as the valley in which the approach was flown was just too narrow to give safe separation.

To overcome the risk of small arms fire (which was often witnessed between the warring factions as we descended on the approach) we developed a steep 6 degree approach to touch down. Starting from cruise altitude of 21000ft the aircraft would be progressively slowed down and flaps, landing gear and eventually full flap selected before the decent commenced at about 100 kts. With power off we could achieve a rate of descent of between 1500-2000 ft p/min. This was more than adequate to maintain the 6 degree approach and have some power in hand to lessen the rate of descent if necessary. The biggest problem was always if there was a tail wind on the approach for we could only land from the north and we never wanted to overshoot into a visual circuit, as that would put us in severe danger of overflying the opposing factions. As with every situation designed around a local scenario we encountered a few 'gotchas'. During low cloud days we had to either raise the decision altitude, fly the profile to 1 mile from touchdown - at which point it would revert to 3 degrees or revert to conventional 3 degree approaches, providing of course that kept us IMC and hidden from the threat. We really had to be on or just below the ideal profile passing 3-4000 ft above touchdown or there was no recovering the situation without that dreaded overshoot! In the 4 years that Lyneham-based C130s operated into Sarajevo, sometimes up to four times a day, I only heard of a couple of overshoots in the latter days when it was slightly more benign. Quite a few saw the far end of the runway a bit closer than intended but the brakes always worked as advertised. After an engines running off-load the departure was less of a problem. The aircraft, by now 16 tonnes lighter, climbed very well back up the approach path and back to Ancona to refuel and reload for a further run. On a good day the round trips were 2.00 hrs including the 15 mins on the ground. Our crews would do two week detachments with flying only curtailed by poor weather or fighting close to the airfield. Operation Cheshire ran for almost 4 years and I personally visited Sarajevo over 300 times. Fortunately our crews had plenty flying to do on other tasking back home because the transit from Ancona to Sarajevo and return became very mundane towards the end. We often had to fight off complacency and ensure the most accurate of flying and adherence to our SOPs.

Sue and I continue to enjoy our year and have been privileged to represent The Company at City and Military events. We have made many new friends both within the Company and in other Livery Companies of the city. This past month I was delighted to be able to return to my ‘Alma Mater’, the Royal Air Force College Cranwell, for a Graduation Parade. This was the first time I had attended one since my own back on the 16th March 1973. October promises to be as busy as the rest of the year and we are now preparing for the Trophies and Awards Banquet and our travels to the Regions in November. We wish you safe flying and good health in the coming months.
TROPHIES AND AWARDS
2014-2015

The following are the awards approved by the Court of the Honourable Company of Air Pilots for 2014 - 2015. The recipients will be formally presented with their award at the Company's Trophies and Awards Banquet to be held at Guildhall, London, on 29th October.

THE AWARD OF HONOUR

The UK Military SAR Force

THE PRINCE PHILIP HELICOPTER RESCUE AWARD

HMS GANNET SAR Flight
17 January 2015

FOR OUTSTANDING COURAGE OR DEVOTION TO DUTY IN THE AIR

THE AWARD FOR GALLANTRY

Sergeant Daniel Allanson RAF

THE SIR BARNES WALLIS MEDAL
Dr Richard Raistrick

THE AWARD FOR GALLANTRY

Lieutenant Commander Chris Gotke AFC RN

THE GRAND MASTER’S MEDAL

Flight Lieutenant Christopher Gonzalez RAF

THE MASTER'S MEDAL

Royal Air Force Traffic Management Force

THE HUGH GORDON-BURGE MEMORIAL AWARD

UGLY 52 – Army Air Corps

THE MASTER’S COMMENDATION

Lieutenant Commander Chris Gotke AFC RN

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Solar Impulse

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Notes:
1. If your declaration covers donations you may make in the future:
   • Please notify the charity if you change your name or address while the declaration is still in force.
   • You can cancel the declaration at any time by notifying the charity - it will then not apply to donations you make on or after the date of cancellation or such later date as you specify.
2. You must pay an amount of income tax and/or capital gains tax at least equal to the tax that the charity claims on your donation(s) in the tax year (currently 25p for each £1 you give).
3. If in the future your circumstances change and you no longer pay tax on your income and capital gains equal to the tax that the charity claims, you can cancel your declaration (see note 1).
4. If you pay tax at the higher or additional rate, and you want to claim the additional tax relief due to you, you must include all your Gift Aid donations on your Self Assessment tax return.
5. If you are unsure whether your donation(s) qualify for Gift Aid tax relief, ask the charity. Or you can ask your local tax office for leaflet IR113 Gift Aid.
THE BRACKLEY MEMORIAL TROPHY
   No award

THE JOHNSTON MEMORIAL TROPHY
   No award

THE SWORD OF HONOUR
   No award

THE HANNA TROPHY
   Squadron Leader
   Duncan Mason RAF

THE MYLES BICKERTON TROPHY
   Squadron Leader
   Gary Coleman RAF

FLIGHT TEST

SAFETY AND SURVIVAL

THE SIR JAMES MARTIN AWARD
   Captain Mark Chesney

THE CUMBERBATCH TROPHY
   Hugh Browning Esq

FLYING TRAINING

THE SIR ALAN COBHAM MEMORIAL AWARD
   Flight Lieutenant
   Thomas Hansford RAF

THE CENTRAL FLYING SCHOOL TROPHY
   Puma Aircrew Training Team

THE PIKE TROPHY
   No award

FOR SERVICES TO THE COMPANY

THE AWARD OF MERIT
   No award

REGIONAL AWARDS

THE GRAND MASTER’S AUSTRALIAN MEDAL
   Flight Training Adelaide

THE AUSTRALIAN BI-CENTENNIAL AWARD
   Harry Schneider

THE JEAN BATTEN MEMORIAL AWARD
   No award

AVIATION MEDIA

THE AWARD FOR AVIATION JOURNALISM
   Squadron Leader
   David Webster RAF

THE DERRY AND RICHARDS MEMORIAL MEDAL
   No award

THE JOHN LANDYMORE TROPHY
   TBC
Company Visit to HMS Ocean

IMMEDIATE PAST MASTER DOROTHY SAUL POOLEY

Many of you will be aware of the longstanding affiliation between the Honourable Company of Air Pilots (or GAPAN as it was for most of the time) and the aircraft carrier, HMS Illustrious. It was one of my sad duties during my year as Master to attend the Decommissioning Ceremony of the ship at Portsmouth last summer. As a Company we were keen to continue our affiliation with a ship, especially an aircraft carrier and we were delighted to be promised an affiliation in due course with the new carrier, HMS Prince of Wales, when she comes into service. Meanwhile, however, due to the good offices of my immediate predecessor, Past Master Owen, we have been able to establish a temporary affiliation with the Navy’s largest warship, HMS Ocean.

The invitation to members of the Court to spend a few days on board the ship whilst it carried out various training exercises and manoeuvres was excitedly accepted by a number of us. Some of us had already had the opportunity to visit HMS Illustrious, but it had been unable to sail because there was too much wind for the narrow passage that was due to navigate to reach Avonmouth, so our stay on board had been static alongside in Portsmouth Harbour. This time, there was a hiccup with the first group, some of whom had travelled up to Sunderland in order to join HMS Ocean for its passage to London. Gale force winds and storms were forecast and despite messages having been sent to the office, it was too late to prevent those members of the group travelling and when they arrived the ship had left without them! So it was with some trepidation, that my group made plans to meet at the quayside at Portsmouth last summer. As a Company we were keen to continue our affiliation with a ship, especially an aircraft carrier and we were delighted to be promised an affiliation in due course with the new carrier, HMS Prince of Wales, when she comes into service. Meanwhile, however, due to the good offices of my immediate predecessor, Past Master Owen, we have been able to establish a temporary affiliation with the Navy’s largest warship, HMS Ocean.

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However, Sunday 10th May was a calm, sunny and warm day and Past Master Owen, Assistant Malcolm White and I waited patiently for boarding; Warden Peter Benn had been delayed by logistics, so the three of us boarded and, after the compulsory safety briefing, we were shown to our cabins. To my delight and surprise, my cabin was “en suite”! Last year, on board HMS Illustrious, the “heads” were quite a distance away down a long corridor...! After quickly unpacking we all met in the wardroom for a cup of tea and then climbed many ladders to join other visitors to the ship in the briefing room for more information about our visit. Commander Air, Steve Deacon, made us all feel very welcome, explaining in detail what we could expect to see and we then returned to the wardroom, where the bar was open. At this point, Warden Benn had caught up with us and after drinks and sandwiches, it was time for the bunk!

Next morning we were up at 6am and straight up on deck to witness the departure of the ship from Greenwich. From the upper midships deck, near the bridge, we had a brilliant view of the passage down the Thames and through the gap of the river. Multiple photo opportunities, seeing the high buildings of Canary Wharf and then the aircraft on approach to the City Airport from a really unaccustomed perspective!

Breakfast was followed by a visit to the engineering department which was to include visiting the engine spaces in the bowels of the ship. For this we had to don protective overalls, hard hats and heavy boots, as well as earplugs. The overalls only came in one size, so some of us were drowned, whilst others struggled to squeeze into them!! After the comprehensive and fascinating tour, we had a quick coffee break in the wardroom before a really interesting tour of the ops room. Explanations were given of the various radar screens and planning sections and there was plenty of opportunity to ask questions. In order to move from one department to another, it was necessary to climb and descend many ladders, some steep and narrow. The effect of this was really evident on the less fit and our legs really knew about it!

Following a good buffet lunch in the wardroom, there was a tour of the weapons including small sub-machine guns on the ship.

Later there was a tour of the bridge. It was at about this time that the weather decided to become really foggy! (Typical - English Channel fogbanks surrounded us for miles!) We had all been looking forward to witnessing the two Sea King helicopters carrying out deck landings both by day and by night and the planned flying looked doubtful. Meanwhile, we had been invited to dine with the Captain, so we went to spruce ourselves up before a long trek to the cabin in the citadel just underneath the bridge. We had not quite worked out the shortest route at this point so we descended three decks, then climbed eight ladders to get to the correct location. A very animated dinner was accompanied by some pleasant wine and
then, as the night flying was not taking place, partly because of the weather and partly because both aircraft had developed faults, an early night seemed in order.

Tuesday morning was not such an early start, but as soon as a quick breakfast had been taken, it was time to go to the section of the ship from which the landing craft would be launched. We donned bulky life jackets and some of us boarded the utilitarian-looking craft. It was rather like being shut into a large sardine can, with slits for windows and uncomfortable wooden benches to which to cling! The boat was lowered on ropes into the water and the crew had the engine started, so as soon as we landed in the water with a hefty thud, it sped away from the ship. We could barely see anything for the spray and everything was lurching about in the cabin. Within a couple of minutes we were back alongside and being hauled out of the water. Unfortunately, a wave caught us and jolted the boat, so although nobody was hurt, the Bridge had decided that it was too dangerous to continue and nobody else could go. The other members of the party were rather disappointed and as they had encouraged me (as the only woman!) to go in the first group, I felt rather guilty, as I had quite enjoyed the experience!

The next activity was observing a demonstration of the emergency response team dealing with a hypothetical crash on deck. By now the sun was bright and the horizons clear, so it was a pleasant change to be outside in the fresh air. The team were very efficient, which was tremendously reassuring. Some members of the group were permitted to use the water hydrants and spray an imagined fire, which caused much hilarity and dampness.

Following another good lunch in the wardroom, we were back on deck, this time to spend time sitting in the Sea King, learning about its navigation systems from a young trainee observer. Then a pilot gave us an insight into operations in Afghanistan where eight hour missions in 45 degree temperatures were common. We could easily have listened to the stories for hours, but the next activity beckoned. Between the planned activities, I was lucky enough to witness some commandos doing a leadership exercise. This involved blindfolded men having to put their weapons back together from a pile of components, being led by one man who could see and move and speak and the overall leader who had to wear headphones so he couldn't hear! All of this was done against the clock and was absolutely fascinating to observe.

After tea, we were able to attend the flight briefing on the met conditions, sea state, hazards etc, and then we attended a sortie briefing relating to the content of each flight to be carried out. One pilot needed to regain deck landing currency, another needed to learn how to attach the high line for refuelling in-flight above the deck. The lady winchman was to instruct a new winchman on the procedure for the refuelling. We climbed the various ladders to Air Ops to watch the procedure from the high citadel windows. A few circuits were performed and then the first practice high in flight refuelling (HIFR) operation took place. This was right in front of our position so made it much easier to take photographs. Just as we were permitted to go back onto the flight deck to watch from there, both helicopters developed faults and had to abort their sorties. One had lost a window panel, the other had electronic display faults.

Whilst we had dinner, the faults were fixed, so we were able to spend some more time that evening watching the night flying from the citadel. NVGs were shared but we were not allowed to take photographs as the flash could have destroyed the pilots’ night vision. About 11pm I decided it was time for bed, as the alarm had to be set for 4am!

The reason for Wednesday’s early start was our opportunity to try our hands at firing a small sub-machine gun. We had to don body armour, protective helmets, ear defenders and goggles for this activity, but there was a long wait for a few seconds of glory, as we only had about 20-30 rounds each.

Later there was a very interesting tour to the medical department and operating theatre and then a trip through the galley and down into the gigantic stores area. We watched the departure of the helicopters and no sooner had we finished lunch, than it was time to go back on the midships deck to witness the arrival into Devonport. First we negotiated the windind route up the Tamar, led by pilot boats through the harbour, receiving and giving many salutes to and from passing vessels. Many more photographic opportunities arose, especially the process of going alongside, a highly skilled and careful series of manoeuvres in such a large ship. And suddenly we were disembarking and saying our goodbyes. A wonderful experience and such a lot learned. New friends and tremendous camaraderie. The Royal Navy certainly knows how to extend hospitality and we were proud to be the first members of the Honourable Company to stay on board our newly affiliated ship. We look forward to fostering our relationship with the crew and the ship over the coming months and years and we all thank the whole crew for making us feel so welcome and at home during their busy work days.
INTRODUCTION

Our thoughts and prayers are with all those affected by the tragic accident on 22 August at Shoreham Air Show, that resulted in the deaths of 11 people outside the aerodrome and serious injuries to the pilot. Media calls for an immediate explanation are understandable but, in advance of the Air Accidents Investigation Branch interim and final reports, there is nothing to be gained from speculation, no matter how well intentioned. The UK Civil Aviation Authority (CAA) very quickly introduced interim measures that included additional scrutiny of each of the remaining airshow permissions for the 2015 season. It also instigated a major review to consider all aspects piloting, aircraft condition and location: the review has a challenging timescale, targeting an initial report in October and a final report before year end. In the UK, airshow annual audiences are second only to football (soccer) matches. Air displays hold an important place in the UK events calendar and they generate significant benefit to local economies and charities. It is important that air displays are safe for everyone and the Air Pilots welcome the CAA review and will provide support wherever possible; we look forward to seeing the outcome in due course.

At the end of August we had a total of 60 responses to the various calls for volunteers to participate in the new committee structure and working groups with the pace of response undiminished. Meanwhile, at the beginning of the month SKYbrary allocated four more articles for review, one of which was actually two separate articles. Recent review responses and consideration of the new Technical Committee (TC)/Working Group (WG) structure, indicate we might be able to merge some of this activity, as discussed below.

SKYBRARY

In August (in addition to three other articles), we were asked to consider whether two articles titled “Cockpit Automation” and “Automation Dependence” might be better combined together. Our reviewers felt that a consolidated and completely new (rather than attempt a quick merge) was by far the best option, albeit outside the remit of our current Memorandum of Understanding (MOU) with SKYbrary.

Excluding August returns, we have endorsed and hold Content Control for 52 SKYbrary articles, with a range of subjects including aircraft fire, ditching, emergency procedures, handling, stall awareness, systems, crew cooperation, icing, volcanic ash and wake vortex. We have always needed an article to be amended by ourselves or SKYbrary before offering endorsement. Our changes have ranged from minor text changes - just a few words in some instances - to re-writing whole sections of text and our efforts have always been well received by SKYbrary yet, while these changes produce adequate articles under our name, time and process mean they are not the highest quality we might provide.

Since our WGs will research important areas/topics (such as Automation Dependency/Manual Skill Fade) we should soon be able to produce high quality, stand-alone articles that, rather than continue to tinker with existing material, we could publish through SKYbrary for a wide readership. In exchange, SKYbrary would recognise the Air Pilots as Content Source (and Content Control) authorities on their website. Enquiries with SKYbrary suggest they might welcome this development, if we can sort out and agree the details.

TECHNICAL COMMITTEE and COORDINATION PANEL

We have received applications from across our membership, spread across the age spectrum and the world. We have had far more applications than there are places on Coordination Panel (CP) and Technical Committee (TC) and all those invited to become the initial CP and TC members have now accepted so we are full! Our CP members come from UK, North America, Hong Kong and Australia.

My thanks to all who responded and my commiserations to those who have missed out on a place they really wanted. However, it is important to recognise that this will be an evolving situation. It is even more important to recognise that those in the WGs will have the most important role in using their experience and knowledge to produce an authoritative voice (and SKYbrary presence) for the Air Pilots. A draft TC agenda and initial WG topics, outline TOR and potential members are ready for CP consideration. We remain on track to have everything running by end of September.
When Liveryman John Romain offered me the chance to fly Mk 1a Spitfire my grin was impossible to suppress. I am extraordinarily lucky to have flown just about every mark of Spitfire still flying today but to fly this very early version of this incredible aeroplane had to be the pinnacle. It was the type that, with the Hurricane, first took on the might of the Luftwaffe and, through the skill and bravery of the pilots that flew them, prevailed.

At first look the Mk 1a is noticeably shorter in the nose than later versions but it has an aesthetic balance of design that just shouts that this is 'right'. That nose houses an early RR Merlin III of about 1030 hp - somewhat less than the versions that I had been flying with power ranging from 1350 to 1600 hp for the later Merlins up to 2100hp for the Griffon powered aircraft. The three bladed De Havilland prop is the first prop to supersede the very early two bladed fixed pitch Watts prop that was fitted to the first Hurricanes and Spitfires into service. But this is not a constant speed propeller and only has two positions - fine and coarse - so is still essentially a fixed pitch propeller which presents its own challenge. More of that later.

The famous wing is exactly the aerodynamic shape that Mitchell's key designer, Beverley Shenstone, had envisaged and this ellipsoid shape was to stay the same - externally at least - in all subsequent marks. OK - for purists - they did clip some versions and add extensions to others but while the internal structure was adjusted for different armament, and fuel for PR versions, the main profile remained. This Mk 1a has all of the 8 x .303 machine guns actually installed - consistent with every other aspect of this aircraft in which the attention to historical accuracy is precise down to the last nut and rivet. For the sharp of eye the ailerons are fabric covered - to be replaced later by metal ailerons that improved handling at high speed. Externally the only other noticeable difference from later Marks is the cockpit canopy which is much slimmer than the bubble canopies that were to quickly follow.

External checks complete, it is time to fly. First impressions in the cockpit are that there are a lot more handles and levers than in later models - I always try to convey the impression that flying these old aircraft is a really mechanical process in so much as there is no concession to automatics at all and the Mk 1a really exemplifies this. 'Left to right' takes in the standard position for elevator and rudder trim and then the throttle quadrant where there is a noticeable absence of the normal constant speed prop control adjacent to the throttle. Prop control is a push/pull lever - pull for fine pitch for take off and landing and push for coarse - which is pretty much where it stays for the airborne stuff. Try and take off in coarse and you will finish up in the far hedge - as Douglas Bader found out early in his operational Spitfire flying. Below the throttle quadrant is the tall lever with which you mechanically set the radiator flap opening to facilitate coolant temperature - very much fully open on the ground. The main panel is much like the later versions - with a few additions. The small 'spoon' flap selector is top left below which are mag switches, oxygen panel, air triple pressure brake gauge, undercarriage indicator and pitch trim indicator. The main flying instrument panel is the standard of the time and could be found in many such aircraft. To the right are the vital engine instruments - oil temp and pressure, coolant temperature, RPM, boost and at the bottom two fuel gauges for the bottom and top fuselage tanks. These tanks sit on top of each other between the engine and the cockpit firewall and essentially act as one tank - this was recognised in later marks and only one gauge, for the bottom tank, was included. There are also individual fuel cocks for each tank which again were reduced to one in later marks. On the right side of the cockpit are two levers - the smaller one is the undercarriage selector and the large black one is the hydraulic hand pump lever for moving the u/c up and down - what fun!!

As with later versions the rudder stirrups can be adjusted for leg length with rotary knobs on the rudder tubes - best to check that they are set equidistant. The control column is standard for the type - having the stick 'broken' just a little way below the hand grip. This is a masterstroke of design as it never impinges on your leg during manoeuvre unlike the 109 where the cramped cockpit and my rather knees-up posture means the stick can easily be impeded. On the front of the hand grip is the brake
The split control column and the hydraulic pump handle

leaver - differential use of rudder applies the appropriate brake - and set the brakes on for start.

Fuel on, brakes on, mag switches off and prime the engine - six shots on the ki-gas pump. Throttle set - inch forward - start mag switch on (there is no boost coil button as with later Merlins) - stick back and held between the knees - 'clear prop' and push the start button - prop turns and mag switches 'on'. The Merlin bursts into life - not so much with the growl of later versions but with a beautiful purr. Check oil pressure is rising; switch off the starter mag switch and time to get moving.

Hanging around on the ground with the Mk 1a Spitfire is not an option - shades of Michael Caine in the film Battle of Britain come to mind - “Control - my aircraft is boiling and so am I”. The balance is always to get the oil temperature up before the aircraft coolant overheats - unlike later coolant systems (which could still overheat) the Mk1a is an unpressurised system and it does race up so it is wise to be sharpish with taxi to take off. That said, the trick is not to overuse the brakes during taxiing as the early brakes will quickly fade, so judicious weaving with just rudder and only an occasional touch of brake is to be recommended. Run up and pre take off vital actions are pretty standard but it is wise to double check that the prop is in fine pitch and that throttle friction is really firm.

Habit means I put a little right aileron in when I open the power and the engine changes to deeper note - but not a growl. Rudder is effective but needs to be worked and as the tail becomes lighter I raise it so that I can just see over the front - it is now that you realise that this aircraft is carrying (less ammunition) almost its full all up weight and that she is just a bit longer on the ground than later marks I have flown with more power and none of their original armament. But sluggish she is not and there is an instant sprightly feel to the aircraft - and we are airborne. The next few seconds do get a bit busy... squeeze the brakes to stop the wheels, change hands, gear selector to 'raise', and start pumping the big lever (trying not to get in sympathy with your left hand which is on the stick!). As the lever becomes stiff the red up light comes on and a quick check of the mechanical u/c indicators on the wings shows them both flush - we are clean. Check the engine instruments and moderate the take off power a bit before pushing the prop lever to coarse - this for me is a bit unnatural as I am used to doing things relatively smoothly and slowly with old aircraft and the Mk 1a does a moments 'brooah' as she literally changes gear. Time to fine tune her for the cruise and this in the main is setting an engine power that gives a little positive boost and the rpm then settles at about 1800 rpm - and she is surprisingly quick for such a relatively small power plant. Keeping her cool is a matter of finding the right rad flap setting that suits the flight conditions.

Then there is time to revel in an aircraft that is just...wow! Adjectives there are many - balanced and delicate but equally a feeling of robust toughness, and handling to match any. Aerobatics just flow but with the caveat that you are flying essentially a fixed pitch prop and due consideration must be given to engine boost/rpm at the different end of the speed regime. And negative 'G' is a no no - or the engine will quit. This was a critical limitation for the Spitfire against the fuel injected 109 and I can now imagine the occasional frustration of the early Spitfire pilots when in combat. But the balance is the superb handling and turn performance of the Spitfire. There is one other area where due care is required and that is in close formation where the prop configuration can give a slower response and the need to anticipate power changes is essential. I can now also understand how much concentration and attention it must have taken the Spitfire pilots when flying in the early close tactical formations when look out was, sometimes fatally, compromised. Thank goodness bitter experience moved the squadrons to looser more flexible formations.

Regardless of the engine considerations the Mk 1a is just a delight - quick, nimble and with the sort of feed back to the pilot that makes flying a joy - even the stall is benign with the aircraft giving a slight grumble and then gently stalling with no hint of vicious wing drop that can mark the stall in other fighter aircraft of this generation. Look out is better than the 109 but was definitely improved when they moved to the 'bubble' canopy of later marks.

Time in the air is precious for these old aircraft and while I could happily use all of my fuel in extending the sortie I have to get her back on the ground. Coming down the hill she is really quick - the wartime weight comes into play - and that is good time to cool her down as much as possible with rad open and power back. A snappy climbing break into the circuit is an efficient way to get below the 160 mph gear limiting speed but it is prudent not to abbreviate the length of the downwind leg - there is...
At Valley Ascent itself employs former managing director Paul Livingston. Closely together, according to Ascent’s people work side-by-side with military flyers with vast experience as ground trainers. Staff have a combined 164,000 flying hours and 1,300-plus years of service. Dressed in black flying suits – in contrast to the military green – Ascent’s people work side-by-side with their military counterparts in the Moran Building, also known as the school house.

Valley’s RAF instructors and students assigned to the historic IV(R) Squadron operate 28 of the latest Hawk T2 training aircraft built in Britain by BAE Systems. While the Hawk design is now more than 40 years old, today’s incarnation is a huge leap forward in technology, with just two components of the aircraft shared between the T2 and the original jet – the canopy and air brake.

Gone too are the traditional steam-powered dials and instruments in favour of an array of glass cockpit equipped with multi-functional display screens, making it possible for the instructor sitting in the rear ejection seat to simulate a modern combat aircraft.

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IV(R) Squadron RAF Valley

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At Valley Ascent itself employs former managing director Paul Livingston. Closely together, according to Ascent’s people work side-by-side with military flyers with vast experience as ground trainers. Staff have a combined 164,000 flying hours and 1,300-plus years of service. Dressed in black flying suits – in contrast to the military green – Ascent’s people work side-by-side with their military counterparts in the Moran Building, also known as the school house.

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this is cost. A typical Hawk flight will be just a tenth the cost of an hour in a Typhoon, for example.

Ascent's Al Shinner, a former Tornado F3 pilot, reckons each student also covers a wider syllabus than before which means a more proficient fast jet pilot is delivered to the front line than ever before.

The course at Valley runs to 11 months with around 120 hours of 'live' flying and a similar number of hours flown in the synthetic environment, whether full mission simulators or desk-top computers.

To graduate students must be able to fly a Paveway IV bomb attack against a designated target whilst trying to evade a low-level airborne threat. They then have to lead their wingman home in a simulated emergency.

The digital training extends to every student being handed their own laptop with course notes and instructional material loaded on. They can plug these into desk-top trainers (DTTs) to practise procedures they will need to know by heart in the aircraft and can 'fly' against each other in more complex simulators known as FTDs - flying training devices.

The FMS - full mission simulator - is totally immersive with complex graphics and an accurate replica of the Hawk's flight characteristics. Once fully kitted out in flying gear and with the canopy closed the student is to all intents and purposes flying the real jet. The only thing missing is G force.

Post-flight every aspect of the sortie can be played back and analysed which makes for faster learning. Classmates also pore over each other's performance looking for lessons they can apply to their own flying. Debriefing is more extensive and can go on for hours longer than the sortie itself.

Dogfighting remains one of the few skills that is still only taught in the real aircraft. Mr Shinner explains that pilots must learn how to handle the aircraft under extremes of G while exploring the entire flight envelope.

Ascent's general manager Merion Roscoe, a former Tornado ground attack pilot, says: 'Some people thought we would just cut back live flying hours. But we make sure every one of those hours is maximised while every simulator hour delivers a much more rounded and capable operator.'

The first students to pass through IV(R) Squadron are already on their combat training and learning to fly the Typhoon and Tornado.

They will have experienced A Flight's general handling training and the basics of flying the RAF's newest jet trainer before learning circuit procedures and night flying skills, expanding into navigation, ground attack missions and basic fighter manoeuvres.

Even circuits are first flown on the DTTs and FTDs before students get to kit-up and walk out to the real jet to fly the sortie with an instructor.

B Flight then builds on this experience with radar courses, close air support and building up to leading larger formations to aircraft. Evading enemy attacks and advanced air combat is also taught at this stage, along with operational training techniques.

Such a busy training schedule also makes for an extremely active airfield.

RAF Valley's Station Commander, Group Captain Pete Cracroft, explains: 'We have 50,000 movements a year at RAF Valley and we have the largest installation in Wales with 1,400 people, of which 1,100 are civilians from BAE Systems and Babcock. The economic impact we have on the area is vast.'

During the visit to Valley I was lucky enough to be invited to go flying to experience the Hawk T2 for myself. Having previously flown the Hawk T1 with the Royal Navy the contrast was extraordinary.

The wealth of information available to the pilot and instructor is incredible. Moving map displays are nothing new but the fidelity of the images is stunning. A TCAS display helps ease the pilot's workload by highlighting other airborne traffic. The multi-function screens are easy to navigate using the soft keys around their edges and can be quickly programmed to bring up different weapon loads, navigation systems or engine management data.

Best of all is the hands-on-throttle-and-stick capability, meaning most inputs needed to be made by the pilot during combat can be made without removing his hands from the primary flight controls. A heads-up display is another new addition.

Together all this means students are better prepared to meet the challenge of operational flying. The Hawk cockpit is designed to replicate the environment they will find themselves in when they first sit in the Typhoon, Tornado and soon
The F-35 Joint Strike Fighter Aerobatics in the new Hawk are as delightful as the jet’s older sibling, with the powerful Rolls-Royce Adour Mk951 engine giving our aircraft, ZK025, an impressive 6,500lbs of thrust and well ahead of the T1’s 5,200lbs.

Pilots say this new powerplant does not surge and spools up faster than that in the old Hawk. From an engineering perspective it can fly for 4,500 hours between overhauls.

Of course no flight from RAF Valley is complete without a spin through the mountains and the low flying area never fails to impress. Rocketing along the A5 pass and around the base of Mount Snowdon the sensations of speed and power are overwhelming.

We even managed a fly-by for a memorial service at Porthmadog, close to the birthplace of TE Lawrence, also known as Lawrence of Arabia. This was a nice coincidence as my grandfather served alongside Lawrence during his RAF days.

After more than an hour spent in the back seat of Squadron Leader Kev Terrett’s aircraft it was, however, a relief when Valley’s long runway came back into view and we coasted back to the Moran Building before shutting down.

Ben Griffiths is City News Editor of the Daily Mail newspaper and covers the aerospace and defence industries. He’s also a keen private pilot with a particular passion for vintage aircraft and fast jets.

The Electric E-Fan Airbus Airplane Cross Channel Flight

LIVERYMAN DR. JOHN MCADAM

Aviation history was this morning chiselled in stone at Lydd Airport by an Airbus electric powered E-Fan2 light aircraft. The time was 0915hrs on Friday the 10th July 2015 under a near cloudless azure sky with a soft breeze bearing 160° magnetic as Captain Didier Esteyne accelerated down runway 21 and lifted off from English soil. With a wide sweep to starboard, well away from the Dungeness nuclear power station, he overflew the airfield and headed on this maiden flight for Calais in an historic tribute to Louis Bleriot who flew the very first maiden flight across the English Channel in 1909. Climbing silently to 3,500 ft agl the E-Fan2 was filmed for posterity by two accompanying helicopters, transmitting pictures & sound to both departure and arrival points. Although the distance across the water was only 22 miles, the total distance for E-Fan2.0 was in excess of this to include circuit navigation patterns and took a total time of 36 minutes. Today’s historic record was set by E-Fan2.0, the infant electric child of Airbus Industries, the giant European aircraft manufacturer responsible for so very many graceful airliners. I marvelled as I stood in the Lydd Airport reception area watching the helicopter pictures of E-Fan2 cruising silently across the English Channel with the giant smoke-belching Mercantile Marine vessels in the background below, en route to Felixstowe, Rotterdam and all ports north–east.

This E-Fan 2.0 aircraft is produced with carbon fibre composite materials, which are strong, resistant and easy to maintain. It is 6.67 meters long, 2 meters high and enjoys a wingspan of 9.44 meters but is limited to a maximum takeoff weight of 600 kilograms. The electrically driven main wheel enables the E-Fan2.0 to taxi without thrust from the aircraft’s two engines, which also contributes to its acceleration during takeoff. These noise free engines are electric motors generating 32 Kilowatts per engine, which provide all the power needed from takeoff, in-flight and to landing and taxiing to their allocated stand. Compared with their jet and propeller sisters the E-Fan2.0 produces zero exhaust emissions, which is a welcome contribution to the environment.

These motors are powered by a series of Lithium-ion 18650 batteries, weighing-in at 167 kilograms providing total available energy of 29-kilowatt hours and are contained in the wing’s inboard section. This unique positioning removes the power source weight from the cockpit to the main spar where
ventilation and passive cooling can also be easily provided. The batteries will currently provide an endurance of approximately one hour but larger batteries are already designed for larger Mk 4.0 E-Fans, which will increase their endurance to accommodate local and regional flights. These batteries are rechargeable in approximately one hour and may be easily replaced with a quick-change system. An on-board electrical network also supplies power to the avionics and radios via a converter with a back-up battery provided for emergency landing. An optimised digital electrical aircraft energy management system called e-FADEC automatically handles all electrical functions, thereby reducing pilot workload.

The Raison d’Etre of the E-Fan2.0 can be placed with the Paris Air Show in 2011, as a follow-on to the initial cooperation of Airbus Group Innovations with Aerocomposites Saintonge on the Cri-Cri, the world's first fully electric two-engined aerobatic aircraft. Using the Cri-Cri as a flying laboratory, numerous performance tests allowed engineers to gain much experience with the integration of batteries and energy management, while still concentrating on energy recovery by varying the propeller pitch. This experimental work and research became the basic platform for the E-Fan2.0 project. Design for the E-Fan2.0 began in late 2011 and after a year of experiment on the technology demonstrator, the go-ahead was finally given in October 2011. The E-Fan2.0 demonstrator proved such a success that it then went through an accelerated development and construction phase and allowed it's unveiling at the Paris Air Show in 2013. The following year this all electric, battery driven light aircraft made its first public flight in April 2014, and continued to prove an instant success at the Farnborough Air Show and the ILA Berlin Air Show.

“…..from little acorns, mighty oak trees grow.” And so it will be with Airbus's little aviation acorn, in the shape of the E-Fan2.0 technology demonstrator. This small single-seater powered by electric motors has already been developed into a dual training aircraft to accommodate a pupil pilot and his instructor and the four seater E-Fan4.0 has just come off the drawing board. Admittedly, its battery power duration is only quoted at one hour, but that is sufficient for initial training, as history has shown in logbooks that initial lessons prior to cross-country flights very rarely extend to one-hour duration. An additional key feature with the E-Fan2.0 is the connected cockpit concept where an instructor and trainee pilot can prepare their flight plan on a tablet device in advance for uploading into the aircraft cockpit. The tablet is then plugged into the cockpit instrument panel and serves as the navigation and training display unit. Following a training lesson, all data can then be retrieved on the tablet allowing the actual flight to be compared with the pre-planned scenario. E-Fan2.0 now promises to open a new era in aviation and will take shape on a specially designed final assembly line to be located at Pau Pyrenees Airport, which is as unique as the aircraft itself.

Airbus Group have already budgeted millions of Euros for evaluating similar hybrid propulsion concept studies for a full scale helicopter and indeed a regional airliner. Both of these concepts offer significantly improved fuel economy and marked reductions in both engine emissions and the noise factor.

The writer has spent most of his professional life in film and television production and has noted the great reduction in the size of cameras, microphones and batteries, while the quality and life of all three has improved significantly. Airbus Group research will undoubtedly develop batteries which are much smaller but with considerably greater capacity. That development must surely be on the cards - 'Watch this Space'.
The Vintage Air Tour first started in 2003 to celebrate the 100th anniversary of flight and while basically for DH Moths and kindred types, other marques have joined in from time to time. Previously the Tour had visited France in 2009 at Compiegne and memories of the overwhelming success of that event had lingered with many asking when we were going again. A planned air show at Compiegne for the weekend of June 6th and 7th this year gave such an opportunity.

The Compiegne organisers "Cercle des Machines Volantes" were keen to have the DH Moth Club display team of Tiger Moths "The Tiger Nine" present, however the opportunity was there to widen the group to other participants. Within a matter of a few weeks of the announcement nearly thirty aircraft had signed up, including no less than nineteen Tigers! Henry Labouchere brought Sir Torquil Norman’s lovely DH 84 Dragon, and with two Leopards, three Hornets, a Tipsy Belfair and Thomas Leaver's beautiful Travelair 4000 helped fill out the entry list. Oldest aircraft to make the trip was Roy Palmer’s 1929 DH 60.

The French end of the organisation, Peter and Marie-Jo Gould, had worked exceptionally hard and a full itinerary of five days was mapped out. Arrival day was the 4th June with most aircraft routing through Abbeville where some 40 people sat down to lunch thence to the first overnight at Amiens where the Aero Club de Picardie provided parking, fuel and much else besides. The staff at Amiens airfield went out of their way to assist also. The evening meal in a local hotel was a noisy affair with close to fifty people dining!

Next morning though, there was a air of concern at breakfast, the forecasts were warning of severe thunderstorms, with even worse, hail, forecast for a large area of northern France. There was nothing else for it other than to try and get the entire fleet under cover, and not one airfield had anything like enough hangarage to go round. Within the hour Peter Gould had made arrangements for the safety of cover to be available, but it meant that the group had to split up and the planned itinerary cancelled!

Therefore the planned visit of the Tour to Sedan, Verdun with the next overnight at Reims and thence to Compiègne on the 6th had to be abandoned with aircraft spread around some six airfields. One of those was Sedan where they were ready with a BBQ for 60 people, but with only eight aircraft going we were not likely to be hungry there! Ironically the flight that the eight aircraft took to Sedan was just delightful in that blue skies, light breeze and warm temperatures belied the forecast, that coupled with the unrestricted airspace in France made it a flight to remember. The Aero Club Raymond Sommer made everybody welcome and visitors were given the opportunity to tour the small but interesting museum there before overnighthing in a local Fort, fortunately not in the dungeons!

However further west it was beginning to look rather unpleasant and three straggler Tigers were battling thunderstorms and gusty winds to depart UK, however they did join the party making Compiègne by nightfall. The forecast storms did arrive at Amiens with some hail but didn’t progress much further but importantly all aircraft were safe.

Saturday dawned bright with a light breeze and a further flight to remember ensued, for the fleet at Sedan, for the journey to Compiègne, with the Dragon leading a loose formation as it made its way to the west! Arrival into Compiègne was uneventful and it was truly a treat to
see the numbers of aircraft lined up ready for the events of the afternoon.
So with the Airshow briefing for display pilots complete and large numbers of public streaming in the show commenced promptly at 14.00.

Of the British contingent, Bob Gibson flying Roy Palmer's DH 60 put on a spirited display in what had developed into a rather gusty north-easterly wind. His slow flight into wind looking almost as though it was in hover! Henry Labouchere with the lovely Dragon certainly didn't disappoint either showing the eight seat aircraft off to its best advantage. Dave Reid with his Hornet kept the lead Leopard flown by your scribe, honest, and made it look much better than the lead deserved! David Beale in his delightful Tipsy Belfair with its lovely Spitfire shape wing pleased the crowds also. However the stars of the show were without doubt the Tiger Nine. Initially on the Saturday the local police inspector, appointed by the Prefecture, expressed reservations as to the "Bomb Burst finale" causing the show to be altered, however won over by the professionalism of the formation pilots, he removed any restrictions for the Sunday display.

A hangar meal for all participants rounded off the day and it was a tired bunch of aviators who climbed aboard the coaches for the trip to the hotels.

On Sunday the group split into two with the Tiger Nine departing for a photographic sortie overhead a number of the WW1 cemeteries in Northern France, an endeavour fired by the Commemoration flight by Moths in 2014 marking the start of WW1 which readers may recall from last years Air Pilot. The remainder went by coach to the Château de Pierrefonds which is located just south east of Compiègne itself. Well worthy of a visit, the sheer magnitude of the building itself belying its age, vast rooms and a dimly lit dungeon containing many statues of French aristocracy.

Lunch at the airfield followed along with another briefing before a repeat of the Saturday show.

Again the Tiger Nine excelled, certainly the stars of the show, this time with their repertoire in its original form. Of particular note, and for those who have flown Tigers [who hasn't?], the position holding for the flypasts was exemplary and a real credit to all involved.

The day rounded off with an excellent group meal at the Château's Golf Club where we thanked our hosts the CMV, and also our French organisers Peter and Marie-Jo for all that they had done. Without their support the Tour would not have taken place!

The weather forecast for the Monday, when the majority of the fleet were intending a visit to La Ferté Alais and its museum, was not promising at all. A strong gusty northerly wind right across what is a rather difficult strip over a hill crest at the airfield with trees to the windward side! Nobody expressed any real enthusiasm and rather reluctantly the fleet set course to the North West and home.

Many used Abbeville as a staging post before tackling the Channel but with conditions worsening it became a race against time to reach England. There were stories of a number of attempts to land at Headcorn but all managed it. They all did ultimately reach home safely with some memories of another successful French trip to reflect on.
Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.” Leonardo Da Vinci

Long the preserve of science fiction and spy movies, the jetpack could soon be a reality thanks to the innovation of New Zealand based Martin Aircraft Company. Martin Aircraft Company is the maker of the innovative Martin Jetpack. With its patented technology, the Martin Jetpack is poised to alter the dynamics of light aviation. The Martin Jetpack is a disruptive technology, much like the helicopter was when first developed, with substantial capabilities and is able to be flown by a pilot or via remote control. The Jetpack can take off and land vertically (VTOL) and because of its small dimensions, it can operate in confined spaces such as close to or between buildings, near trees or in confined areas that other VTOL aircraft such as helicopters cannot access.

Initially designed as a personal Jetpack for individuals in the leisure market, the technology is being recognised for its applications across a broad range of different sectors. Named as one of Time magazine’s Top 50 inventions for 2010, the Martin Jetpack, the world’s first practical jetpack, has potential usage spanning disaster recovery, emergency services, search and rescue, military, recreational and commercial applications, both manned and unmanned. Based in Christchurch, New Zealand, Martin Aircraft Company is a public company, listed on the Australian Stock Exchange. The CEO and MD is Peter Coker a former RAF pilot and an Upper Freeman of the Honourable Company of Air Pilots.

HISTORY

The Martin Jetpack was conceived and developed by New Zealand inventor Glenn Martin who dreamed of building the world’s first practical jetpack. In 1981, Glenn started research on the concept of a personal jetpack that could fly much longer than 30 seconds and worked on this dream in his garage in Christchurch, New Zealand, supported by his wife Vanessa, who was the jetpack’s first ever test pilot. In 1998, Glenn formed GNM Ltd and in 2008 the company was renamed the Martin Aircraft Company.

In June 2015, at the 51st International Paris Air Show the company launched its first commercial product to the world and also announced that personal jetpacks could be available as early as 2017.

The First Responder Jetpack will be their first commercial product and will be available for delivery in the latter part of 2016.

This First Responder Jetpack targets commercial environments responsible for “saving human lives”. Such commercial entities, agencies or government departments could be involved in:

- Fire Service
- Police
- Ambulance service
- Search and Rescue
- Disaster recovery
- Border security
- Surf Lifesaving
- Pipeline inspections
- Command and Control
- Other emergency services.

TECHNOLOGY AND SAFETY

The Martin Jetpack technology presently consists of a purpose built 200hp 2 litre V4 gasoline engine driving twin ducted fans to produce sufficient thrust to lift the aircraft and a pilot (or equivalent weight) in vertical take-off and landing, and to fly up to speeds of 74kph. The torque neutral design eliminates the need for a tail rotor, and an on-board inertial navigation system along with flight computer stability and control make the aircraft easy to fly.

Extensive safety features include a ballistic parachute, roll cage structural elements and a shock absorbing undercarriage.

The Martin Jetpack uses Advanced Composites to produce a lightweight structure with high factors of safety.

The following graphics illustrate the basic structure of the present Prototype 12.
The airframe is made of composite materials and the landing skids of the Jetpack will provide crashworthiness in the case of a free fall from low heights. For further pilot protection, the Martin Jetpack utilizes a ballistic parachute system to ensure the pilot to be saved in the case of a catastrophic failure. The chute will be ballistic extracted and inflated which leads to very quick chute opening. The ballistic parachute system allows the chute to be fully opened at a lowest height of 6 meters. Mike Tournier the VP of Sales and Marketing emphasized the safety aspects of the Martin Jetpack, “Actually, we eliminated the dead man's curve in a classical H-V curve of a helicopter”.

**TECHNICAL SPECIFICATIONS**

**General Characteristics:**

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<th>Type</th>
<th>Class one microlight</th>
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</thead>
<tbody>
<tr>
<td>Crew</td>
<td>Single pilot</td>
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<tr>
<td>Height (m)</td>
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<tr>
<td>Width (m)</td>
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<td>Payload at full fuel (Pilot+Equip weight)</td>
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<td>Engine</td>
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<td>Fuel capacity</td>
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**Performance:**

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<td>Cruise speed</td>
<td>30kts (56km/h)</td>
</tr>
<tr>
<td>Ceiling</td>
<td>5,000 ft AMSL</td>
</tr>
<tr>
<td>Take-off wind limit</td>
<td>15kts gusting +/− 5kts (28km/h +/− 9km/h)</td>
</tr>
<tr>
<td>Noise</td>
<td>90db (car limit)</td>
</tr>
<tr>
<td>Computer aided stability</td>
<td>&quot;Fly by wire&quot;, no-pilot-control-input produces a zero air-speed hover.</td>
</tr>
<tr>
<td>Ballistic Parachute</td>
<td>Ballistic chute integrated into the FCS and EMS</td>
</tr>
<tr>
<td>Pilot protection</td>
<td>Protective pilot module and structural protection</td>
</tr>
</tbody>
</table>

**SIMULATOR**

The company also launched for the first time, a full motion Jetpack experience simulator. Designed primarily as a professional training tool the Jetpack Simulator combines state of the art hardware & software solutions to enable pilots to obtain regulatory approvals for solo flight operations, the simulator can also be operated in “demo mode” allowing non-aviators the opportunity to experience the thrill of what it is like to be a Jetpack Pilot.

Programmed with actual Jetpack flight parameters and handling characteristics the Martin Jetpack Simulator uses the Oculus Rift DK2 system to provide the most immersive pilot training environment possible and when combined with the Lockheed Martin Prepar3D® flight simulator database and CKAS full motion simulator it transport the user into a world so realistic it is beyond comparison.

The public interest in the Martin Aircraft Company and its products since its most recent public display at the Paris Airshow has been overwhelmingly positive.