



THE HAWKER ASSOCIATION

NEWSLETTER NUMBER 29 - SPRING 2011

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EDITORIAL

What a lot has happened since the last Newsletter: we celebrated the 50th anniversary of the first hovers of Ralph Hooper's P.1127, and mourned the fact that the UK Harriers were to be decommissioned immediately. Both these topics are recorded in this edition.

Enclosed with this Newsletter is the AGM notice and your **membership renewal form for 2011/12**. Please complete it and send it off straight away. However, **70 of you** owe back subscriptions. Your names are highlighted in the Membership list at the back. So please also send your outstanding £5 cheques to Barry Pegram at the same time as the £5 for 2011/12. **If you don't renew by the end of June you will be removed from the Newsletter distribution list!**

Also, please keep sending your Newsletter contributions to: The Editor, Chris Farara, 24 Guildown Road, Guildford, Surrey, GU2 4EN. Telephone 01483 825955; e-mail cifarara@ntlworld.com

PROGRAMME FOR 2011

Wednesday 9 th February	Test flying the Joint Strike Fighter - Graham Tomlinson
Wednesday 9 th March	'A picture's worth 10,000 words.' - David Hassard .
Wednesday 13 th April	Annual General Meeting with video.
Wednesday 11 th May	Hawker Hunter Aviation - Mat Potulski .
Wednesday 8 th June	Summer barbecue.
Wednesday 13 th July	Miniature gas turbines - James Hill .
Wednesday 10 th August	Social with video.
Wednesday 14 th September	Social with video.
Wednesday 12 th October	Poacher turned Gamekeeper - Alan Millican

Graham Tomlinson, ex Chief Test Pilot at Dunsfold is recently returned from Lockheed-Martin where he was CTP for the ASTOVL F-35B, Member **David Hassard** will show us aviation art, **Mat Potulski** is Managing Director of HHA who runs a fleet of Hunters under contract to the MoD, **James Hill** is Chairman of the Gas Turbine Builders Association and **Alan Millican** was, of course, our last General Manager at Kingston. Unless stated otherwise, meetings are at the Hawker Centre, Kingston - the old Sports & Social Club - and start at 2.00 pm. Lunch and drinks are available beforehand, tea afterwards, and there is a large, free car park.

HARRIER VALEDICTION

Following a 'Strategic Defence & Security Review' by the Coalition Government it was decided to decommission HMS Ark Royal and the Joint Force Harrier fleet. It was also decided to cancel the UK order for ASTOVL F-35B Lightning IIs and substitute a reduced number of the conventional USN F-35C version to operate from the RN's second CVF carrier Prince of Wales which will now be fitted with catapults and arrestor gear. The first ship, Queen Elizabeth, will be configured for helicopter operations only and then will be 'mothballed' after a few years. It is hoped to find a buyer. Both ships will still be built because the contract with BAE Systems is essentially unbreakable as cancellation would cost more than completing the build. There is also a political angle; cancellation would cause massive unemployment in the shipyards.

It is reported that the initial choice was to keep the Harriers and Ark Royal and decommission the Tornado bombers thus leaving the UK with a flexible tactical force that could be deployed world-wide. However, some Air Marshals persuaded the Government that it would be more economical to keep a (reduced) RAF fleet of swing-wing, twin engined, heavy, two seat supersonic bombers needing a £2.5 billion update than to retain a joint RAF-RN force of vectored thrust, single engined, single seat, subsonic light attack fighters which had recently been brought right up to date.

So, at last, the big-ship Admirals have got rid of the through-deck cruisers they never wanted, which operated subsonic fighters they had to have, and at last (may) have their beloved mega-expensive 65,000 ton catapult equipped carrier, operating real supersonic naval aeroplanes with tail hooks - but not for ten years. And the Air Marshals keep their big, supersonic bombers.

And, by the way, this will have the major benefit, never mentioned before, of allowing cross-operation with carriers of our allies. That would be the USA and France: one who has so many carriers that they don't need to use ours, and the other who has in the past shown complete indifference to joint efforts unless, of course, they can be in charge.

So until 2020, or later as programmes invariably slip, our Government had better make sure that any war zones our forces are ordered to operate in are within range of a friendly base with long enough runways for those Tornado bombers; like Afghanistan (where the Harriers' quick reaction times were highly valued but where the Tornados are not shining and need to flight refuel immediately after take-off) which seems to be driving this country's defence policy. Should Argentina

have another stab at taking the Falklands now that oil has been found there, let's hope that the four Typhoons at Stanley can keep them at bay. If they can't the UK has no response as Argentina is unlikely to grant over-flight rights for Tornados flying out of UK-friendly Chile.

All these arguments have been put and failed to convince so, it is fare well to the Harrier and jet V/STOL in the United Kingdom, home to the people who perfected the machine and the operating concepts. The good news is that the US Government and the USMC continue to have faith, and that BA E Systems and UK brains and industrial skills remain integral and essential parts of the Joint Strike Fighter programme.

Amen.

HARRIER NEWS

On 4th November the three Harriers with 41 (Test & Evaluation) Squadron were moved from RAF Coningsby to RAF Cottesmore when they were within four days of flying in the final Harrier systems update, Capability EB, an advanced airborne datalink. Wg Cdr Rich Davies, OC of 41(T&E) Sqn, when asked why he thought the Harrier was being withdrawn is reported to have said "I wouldn't like to comment - but if it is capability based, you couldn't get a better platform for the role it was operating in the RAF." And that from a Tornado pilot.

Ark Royal left Portsmouth on a fare well cruise on 9th November to Glen Mallon, near Glasgow, for de-arming, then on to Newcastle where she was built. Just before docking four Harrier GR9As made the type's last ever landings on a Royal Navy carrier. The pilots were Wg Cdr Dave Haines and Sq Ldr Chris Cartwell of RAF No 1(F) Sqn, and Lt Chris Roy and Flt Lt Richard Heap of the Naval Strike Wing, Richard Heap being the last to land. Leaving Newcastle on 22nd November the four Harriers departed for RAF Cottesmore on the 24th while the ship headed for Hamburg, returning to Portsmouth on 3rd December. The last pilot to fly off Ark Royal was Lt Cdr James Blackmore.

The 15th December was the date of the final flights of RAF-RN Joint Force Harrier aircraft. Sixteen took off from RAF Cottesmore to fly over Marham, Wyton, Wittering, Stamford, Cranwell, Waddington, Scampton and Oakham, making their final landings back at Cottesmore - and into storage with the other 63 aircraft. The 13 single seat and 3 two seat Harriers were led by ZG506 painted in the original GR Mk 1 dark grey/green/pale grey camouflage scheme and carrying beside the cockpit the names of the first and last COs; AVM G Black and Gp Capt GM Waterfall, and on the fin 1960 - 2010. Three other Harriers had special fin markings: ZD351 in 800 NAS 1980-2010 livery, ZD477 in 1 Sqn 1969-2010 livery and ZG858 in IVR Sqn 1970-2010 livery.

P.1127 50th ANNIVERSARY

On 19th November 2010 a celebration was held by the Hawker Association to mark the 50th anniversary of the first untethered hover of the first of Ralph Hooper's P.1127s, XP831. Members who had been with Hawkers during the P.1127 design, manufacture and development period, together with some special guests, were invited to a lunch at the Brooklands Museum in the Chequered Flag Room which was filled by the some 125 who had accepted the invitation.

It was a beautiful day with a clear blue sky so old colleagues and friends gathered outside in front of the Club House in the sunshine to reminisce around the sixth P.1127, XP984. Duncan Simpson, John Farley and Ralph Hooper were interviewed by the BBC. As one o'clock approached the gathering moved inside to the bar and Bluebird Room where original Hawker display models of the P.1127, P.1150, and various P.1154s and Harriers were on display together with bronze busts of Sydney Camm and Tom Sopwith.

The Chequered Flag Room had been prepared beautifully with round tables all set with white table linen and shining cutlery and glasses. After Grace, spoken by the Rev Vernon Lidstone, everyone enjoyed the excellent hot buffet of beef Stroganoff with rice followed by pear and almond tart. This was accompanied by a digital slide show of P.1127 photographs. After coffee the first and most important toast, to Ralph Hooper, was proposed by John Glasscock, then Ambrose Barber proposed a toast to absent friends. John Parker, BAES's Heritage Manager who had kindly arranged for BAES to provide funding towards this event, introduced Angus Currie, BAES's Harrier Project Director who spoke about the current Harrier situation after which John presented to Ambrose Barber, for the Hawker Association, a Mark Bromley painting of XP831's first free hover. Group Captain Peter Bedford remembered his father, Bill Bedford, who made that first flight in XP831. Next came Duncan Simpson speaking about Hugh Merewether who shared all the early P.1127 development flying, and lastly Group Captain Jock Heron talked about the Harrier in service. To finish with, a film of the early P.1127 test flying, put together by Hugh Merewether from 16 mm film taken by members of Fred Sutton's Flight Development Department, was screened.

Somewhat reluctantly the party broke up at about 3.30 with all agreeing that they had had a good time and had marked the anniversary appropriately.

The speeches, in some cases edited for space reasons, follow this report.

RALPH HOOPER - by John Glasscock.

Today we celebrate a Hawker Aircraft event of 50 years ago - but are sad that the eventual successor to the P.1127 is going out of service in Britain soon, having done great deeds without quite achieving the world-wide sales we had hoped for. However, the Harrier will still be flying in one form or another with navies and air forces in various parts of the world; the Harrier will not be forgotten.

That one event was the culmination of years of hard work in many parts of the Company and today is the time to speak of the people who did so much in the late '50s towards that day in November 1960 when history was made.

In those days I was a humble 'bean counter' in Canbury Park Road, almost unaware of the work which was done and the battles which were fought in respect of the P.1121, P.1127, P.1154 and Harrier - so relying on the memory of others, not much has changed!

Many of our colleagues are no longer with us, but one who is, is Ralph Hooper, and I am very privileged to pay a short tribute to him today as he is with us here, without making it sound as if he isn't - if you get my drift. His contribution to this and other projects was immense and much understated - modest and unassuming he allowed others to take much of the credit which was rightly his, although history is working to rectify that, as we are today.

Ralph and the recently deceased Gordon Lewis of Bristol worked in the shadows of two great men, Sydney Camm and Stanley Hooker, to make their concepts successful. An anecdote about Camm comes to mind: Sir Sydney with Roy Chaplin talking to Sir James Martin and referring to the new P.1127 with Ralph Hooper present, "If it works we (SC and RC) done it; if it doesn't 'e done it (indicating RSH). (Ralph later said, "It's the nearest Sir Sydney came to paying me a complement.") Well, the eventual outcome was very successful and we acknowledge Ralph's contribution to it as an individual and as leader of a team. He was and is much respected and he fought his corner as well on behalf of his design teams. He and I often disagreed over various aspects of management - quite often about pay. Both thought we were right - reason and compromise prevailed; both thought we were underpaid!

We cannot ignore Ralph's leadership later on in the Hawk project, one of the most successful programmes in our history. He has been a staunch supporter of the Hawker Association and other aerospace organisations leading to recognition with various awards which he has modestly accepted to add to his OBE which, had he worked at Warton would probably have been a knighthood! British Aerospace released this great talent shamefully early; but that was their loss and diminished their capability to push ahead even further with advanced projects.

So, we pay tribute to a valued friend and colleague; we wish him well in the future and today we drink a toast to his health.

A TOAST TO ABSENT FRIENDS by Ambrose Barber

It is a memorable occasion for the Hawker Association to be able to assemble here today so many people from the 1960s era of the P1127s. It is great to see you here tempted, no doubt, by the prospect of the first free lunch some of you have had since retirement!

As John Glasscock has said, our achievement in 1960 was a team effort and I am reminded of this when I look at some of the names from those days engraved on this base I've just used to bang with my gavel, which has been banged in the past by successive Toastmasters at Kingston and Dunsfold departmental heads' Christmas Dinners. Reading some of them now: 1960 Fred Jeffery (Aerodrome Manager), 1961 Roy Adolphus, then John Gale, Fred Sutton (Flight Development), Ron Selwood (Inspection), Stanley Bell (Stores) and A.W. Bedford. It is right that they and their teams should not be forgotten, an aim shared by both the Hawker Association and the Kingston Aviation Heritage Trust. They and we believed in what we were undertaking in 1960 with the revolutionary new jump-jet; we had to! It seemed an elegant technical solution, and so it was to prove.

Initially though, all was not plain sailing. The first prototype XP831 had arrived from Kingston in the summer of 1960 and after exhaustive checks was readied on 21st October for our first attempted vertical lift-off. The result was a triumph for the engine manufacturers - we certainly saw plenty of light under the wheels - but the aircraft itself danced about in a drunken fashion and we were indeed thankful for the restraining cables which tethered the precious prototype to terra firma. A month passed with much concentration on analysis, modification and re-testing until to-day, 50 years ago, 19th November, when we felt confident enough to finally try without the tethering cables.

The first free controlled hover at Hawker's Dunsfold aerodrome was a momentous turning point and opened the way to developing the highly successful operational aircraft that the Hawker/BAe Harrier became. It was witnessed by a small group of Hawker engineers, technicians and ground crew, some of whom are with us today. Now, in celebrating 50 years of flying by a total of 824 such aircraft, let us remember those who are not with us. You will I'm sure each have your own particular colleagues in mind - let us now raise a glass to them!

BILL BEDFORD AS A FATHER - by Group Captain Peter Bedford

I am delighted to have this opportunity to say a few words today about my father, Bill. Yesterday, the 18th November, would have been his birthday. Thus, he did the first untethered hover at 40 and a day, and yesterday would have been 90!

He started employed life (with Blackburn Starling) as an apprentice electrical engineer and steeplejack. But the latter was something of a misnomer, as he apparently had no head for heights and had to crawl around on all fours. He would cycle to work, about 15 miles, and given the chance would intercept lorries and hang on to the tailboard for a tow. His crash in an RAF lorry in Burma, as a passenger, on Christmas day 1942, saw him awake in hospital, quite severely injured, to be greeted by his commanding officer with the words: "Don't worry, Goldney, you'll be alright". The CO obviously had a slight problem with names, because Goldney was on the next stretcher to my father - dead! Having just started with Hawkers at Langley in 1951, and doing a routine production test flight in a Sea Fury, the engine failed above cloud, so he descended, picked an area, and landed on what turned out to be a field of green kale, only to be harangued by a crowd of potato pickers with words to the effect of: "You nearly killed us and our baby in the pram. What do you mean by landing it so dangerously?!"

Turning now to my memories of AWB as a Father, one of the earliest was his life-long passion for swimming. We would go to Guildford Baths in Castle Street where he would throw my sister Janet and me in from the top board, despite the loud protestations of the pool attendant! And, later in life, when my parents lived at The Chequers, in West End village, he would walk through the woods and then swim in the rather cold and muddy local lake and would even persuade my two sons to do the same!

During his time as Chief Test Pilot [1956-67] the family home was Primemeads Farm on Dunsfold Aerodrome. A few snapshots from my schoolboy days follow. Hurricane PZ865/G-AMAU, "The Last of the Many"; numerous private displays at Dunsfold after he had used his much-loved "hack" on a visit. And being allowed to taxi it across the airfield, with him standing on the wing. Flying with him in the Rapide to the Farnborough air show and on one occasion watching Gp Capt Pat Hanafin - I think Commandant RAE at the time - "borrow it" for an impromptu display during evening drinks at one of the chalets. ETPS Mess: during Farnborough week, we kids would enjoy being "dumped" in the TV room, being fed Coke or whatever. Some years later the tables were turned and I would be his chauffeur back home (whilst he of course slept)

At Dunsfold: sitting in one of the many parked Sea Furys on the airfield, with the Pilots' Notes and going through the checks with him; the Control Tower with SATCO Bertie Coopman; in his secretary Maureen Sterling's office at the weekend; the pilots Neville Duke, Hugh Merewether, Duncan Simpson, Frank Murphy, Frank Bullen and David Lockspeiser; picking huge bags of mushrooms early on Sunday mornings; the lapwings in their thousands on the airfield; our cricket matches playing for the Hawker Aircraft Sports and Social Club; shooting rabbits around the airfield at night in the headlights of my mother's Austin Somerset and selling them to the night shift to pay for cartridges. He taught me squash on the old concrete court and would do his (in)famous "Dunsfold swat", a forehand return down the wall on the backhand receive of serve, just above the tin, invariably catching me out.

I then went to the RAF College Cranwell. On leave in 1966, he fixed a trip for me to fly in a Red Arrows Gnat during one of their Farnborough practices (Ray Hannah was Team Leader), an amazing experience for a young Cadet! This loop was closed in September 1979, when, as a Hercules captain I flew the Red Arrows support trip for their last public Gnat displays, down in Jersey and Guernsey. He then flew with me from Kemble to Valley, where the Team had one last Gnat meet. We night-stopped, enjoyed the fantastic party, and then returned to Kemble the following day.

Other assorted memories: the Paris air show and the evenings at the Lido; his fanatical "eat fat, grow thin" diet - Guinness was OK, especially at the Leatham Bottle; sandbags in the boot of his Jag to show the weight lost; brandy and ginger - "Horse's neck" - preferably in the bath, with a good cigar; a morning person who, as we all know, would sleep at the drop of a hat, especially in nightclubs; a person not overly keen on bureaucracy; a sportsman - could play anything, but never quite mastered golf; artistic, creative, an inveterate letter writer, who loved scrawling with his felt pen, either on notebooks or the nearest plate, or, at times, tablecloth; determined (and sometimes bloody minded); very loyal to friends; another Cranwell memory where he visited in the Hurricane and for some reason was not permitted to give a display on departure, so took off, set course, and then did a continuous slow-roll into the far distance!

Naomi and I now live at the home he and my mother Mary set up in 1968, The Chequers, which is rather nice with all the memories that remain. However, I have yet to follow his habit of standing by the roadside, armed with hair dryer, clipboard and fluorescent jacket, in an attempt to slow down the passing traffic!

HUGH MEREWETHER - by Duncan Simpson

Hugh joined Hawker Aircraft in early 1954 having been recruited from No 615 Squadron, Royal Auxiliary Air Force, by Neville Duke.

He had learned to fly with the Navy during the war before taking his engineering degree in London. He kept up his flying subsequently by ferrying aircraft overseas and in the RAuxAF. At the same time he worked as an engineer in industry including a spell at Vickers with Barnes Wallace whose research department was in this very room.

On joining Hawkers at Dunsfold he applied his flying and engineering capabilities to solving problems with Fairey's first generation powered flying controls in the Hunter. He wrote two booklets and devised procedures and solutions to problems which had led to accidents. He participated in much of the development work which made the widely exported Marks 9 and 10 Hunters such outstanding aeroplanes. An important programme of Hugh's was the Hunter erect and inverted spinning investigation, the results of which formed the basis of an Empire Test Pilots' School instructional programme which was part of the syllabus for thirty years.

Whilst carrying out a large part of the P.1127 flight development programme he also accomplished two remarkable and successful forced landings. The first was at Tangmere following a severe engine failure in XP972; the second was at Thorney Island after a transonic surge in XP984, the aircraft which now sits outside this Club House. Both these incidents involved desperate attempts to save physical evidence and recorded data for investigation into the causes of these catastrophic failures. Thirty five years has passed; long enough to comment that Hugh might have been awarded more appropriate recognition for the skill and bravery he exhibited in these events.

There is no doubt that Hugh Merewether, a rare combination of outstanding aeronautical engineer and skilled test pilot with excellent communication abilities, made a substantial contribution to the development of military jet V/STOL through the P.1127, Kestrel and the Harrier.

THE HARRIER: A TRIBUTE by Group Captain Jock Heron

My first intimate contact with the Harrier was at Dunsfold in February 1971 when Duncan Simpson kindly gave me my first trip in T2 XW269. I was serving on a ground tour at the time and although flying in anything was a bonus, that introductory exhilarating sortie acted as a stimulus to my request to be posted to a Harrier squadron. So it came about, and that introduction by Duncan was to stand me in good stead when coincidentally XW269 was an aircraft with which I was to become very familiar as it was my squadron's trainer aircraft when I joined the Harrier Force in Germany some 18 months later. My subsequent relationship with the Bona Jet was cemented over the years both in the cockpit, mainly in Germany, and on staff duties both in London and elsewhere.

Ten years before, however, the P1127 was a unique capability searching for a concept of operations and in the early 1960s the majority of the air staff in the MoD were wedded to the need for a supersonic fighter and it took some time to persuade the non believers that there was real potential in a developed version of a vectored thrust combat aircraft, the P1154, particularly when compared to the Dassault Mirage 3V, project with its single engine for propulsion and its battery of eight Rolls-Royce lift engines, a concept which was promoted heavily by Derby. Recognition must go to Sir Sydney Camm at Hawker and Sir Stanley Hooker at Bristol for their visionary recommendations to their respective Company boards to pursue this vectored thrust project. However the real credit belongs to Ralph Hooper and the late Gordon Lewis for persevering so successfully in these early years. It is sad that Gordon died before he could join this celebration of their work together and although he was a man of slight stature Gordon was a giant as an aero engineer.

Although perhaps controversial, it is fair to say that cancellation of the P1154 in 1965 was a wise move because the difficulties involved in making the Harrier a credible military fighting machine were immense. Despite these challenges, however, the rapid progress from the primitive P1127 hovering machine of 1960 to a credible weapon of air warfare in less than ten years confirmed the talents of the team at Kingston and Dunsfold. During the pioneering days of the early 1970s men like David Scrimgeour, who had commanded the Kestrel squadron in 1965, Ken Hayr, George Black and Paddy Hine in the RAF and Harry Blot in the USMC worked tirelessly to confirm the capability of jet VSTOL, or more accurately STOVL. The two armed forces exercised the expanding capabilities of the aircraft both ashore and afloat and we in the Harrier Mafia were convinced of the attractions of vectored thrust. Dispersed site operations were impressive and the little jet seemed to prosper in field conditions with the associated high sortie rate although the visiting NATO tactical evaluation team, whose standardised check lists didn't extend to operations from minor roads and farmers' fields in Germany, didn't quite appreciate the way we went about our business.

However, it took time and effort to convince the sceptics in the MoD because when I arrived in Whitehall in 1975 after my first tour in Germany there was a subtle but quite evident bias against the Harrier. In the first seven years of squadron service we had lost some two dozen aircraft and several pilots, an unattractive record in anyone's book. The MoD's policy for the offensive air support role was to buy more Jaguars and allow the Harrier to wither within ten years. Strong arguments by the Harrier Mafia in Whitehall together with world events led to a major change in policy in 1977 and in an attempt to persuade the sceptics of the merits of the Harrier my presentation on the improvements which we sought in the basic Harrier included the statement:

"The Harrier today is where the helicopter was 30 years ago, limited in range and payload, and opposed by men without vision, but its unique capability points to an entirely new concept of operations for tactical aviation." These efforts were to bear fruit and in 1977 the Jaguar Force was frozen and an additional buy of 24 Harriers was authorised. Subsequently there emerged greater interest in a much more capable version of the aircraft, the GR5. The rest is history.

The RAF's Harrier came of age when Peter Squire took his aircraft to war alongside his Sea Harrier counterparts in the Falklands where the Bona Jet performed superbly. Despite the RN's earlier opposition to the P1154, our dark blue colleagues became strong advocates of STOVL and, in addition to their well documented achievements in the South Atlantic, the Sea Harrier went on to perform well in operations in the Balkans and elsewhere. Subsequent deployments in Iraq and Afghanistan confirmed the need both for the unique STOVL capability of the Harrier GR7/9 and the enhanced operational effectiveness of the second generation "electric jet". The MoD's recognition of the attractions of the Harrier remained to the fore until the recent regrettable and puzzling decision to withdraw the aircraft from service at the end of the year; a decision which smacks of a cost cutting exercise in the MoD rather than a proper strategic defence review. To paraphrase this: "They have acted in haste and will repent at leisure"

Despite this, those of us who were involved in its conception, design, development, flight test and service operation, either on the ground or in the cockpit, will remember with justifiable pride that we were STOVL men and that we were members of the exclusive Harrier Mafia.

POSTSCRIPT - by the Editor, Chris Farara

Quite rightly the focus of the day's celebrations was on the P.1127 and on Ralph Hooper who conceived it. However, it would be wrong if we did not remember the later huge contribution made to the project by John Fozard when he became Chief Designer Harrier. With energy and devotion he led the team that perfected the Harrier as a formidable service aircraft and, in his own inimitable manner, broadcast the merits of jet V/STOL all over the world.

DUNSFOLD PARK P.1127 CELEBRATION

Jim McAllister, proprietor of Dunsfold Park, the current name for Dunsfold Aerodrome, arranged a celebration on Tuesday 16th November (so as not to clash with the Association's Brooklands event) to mark the 50th anniversary of the first P.1127 free hover at Dunsfold in 1960. Invitations were sent to quite a few Hawker and Dunsfold old hands as well as to local dignitaries and the news media. The highlight was to be a display by two Harrier GR9s from RAF Wittering.

The 16th dawned foggy with the hope of a clearance so the guests arrived at Dunsfold at 10 am as requested. At about 11 am the sound of Harriers in the circuit could be heard and the two GR9s could occasionally be glimpsed through what was now low, thin cloud brightly illuminated by a strong winter sun. Several semi-visible semi-jet borne flypasts were carried out, but no landings. Sadly the Harriers departed to refuel in the hope of returning but by now conditions were deteriorating at Wittering so a prompt return to base was called for. Meanwhile the guests were socialising and enjoying the excellent refreshments provided by Jim McAllister in what used to be the Aerodrome Manager's building. The good news was that the Harrier team promised to return on the following Thursday and all the guests were invited to return as well.

Thursday was dull but fog-free and quite good enough for the two Harriers (ZD321 and ZD330) from IVR Squadron RAF Wittering, the OCU, to give an impressive V/STOL display on arrival. After landing the aircraft were parked side-by-side on the eastern ORP and refuelled by the RAF support team who had again come down by road in their Harrier Display Team van. With this task completed the media descended to film, photograph and interview RAF Harrier pilot Wing Commander Simon Jessett wearing a 2000 hours Harrier patch, as well as our pilots, Duncan Simpson, John Farley, and Chris Roberts.

Once again the guests repaired to refreshments before watching the aircraft STO in dramatic clouds of spray off a wet runway in an easterly direction. It had been a real pleasure to see and hear the sound of Harrier jets at Dunsfold, a bittersweet experience as this was certainly one of the very last public appearances of our great jet V/STOL fighter and certainly the last time a Harrier will be flying at Dunsfold.

THE ROYAL AERO CLUB TRUST

On 13th October Dick Poole, whose career in BAe covered Flight Test at Dunsfold, of which he became head, the Chief Engineer's office at Kingston where he covered AV8B Night Attack and Harrier II+, Harriers GR7 T10, and Sea Harrier developments. He then moved to future projects at Warton and worked on what became JSF. This date was the 50th anniversary of the first tethered hover of P.1127 XP831 so his talk was preceded by a celebratory buffet lunch, a digital slide show of P.1127 development work and a video of early P.1127 flight testing compiled by Hugh Merewether from Flight Development 16 mm Kodachrome film.

Dick started with a historical summary. In 1901 Frank Hedges Butler, his daughter Vera and the Hon CS Rolls decided to form an Aero Club after a balloon flight from the Crystal Palace. Analogous to the Royal Automobile Club, the Aero Club initially catered for balloonists, issuing Aeronauts Certificates of competence. With the rise in heavier-than-air flight a flying ground was opened on the Isle of Sheppey in 1909 where pilots were trained and if successful were issued with Aviators Certificates. Because of problems with flooding the flying was moved to nearby Eastchurch. In 1910 the Club received royal approval and became the Royal Aero Club of the United Kingdom (RAeC) controlling the nation's non-commercial private and sporting flying, record setting and competitions which it does to this day.

Nowadays the RAeC has many Member organisations including the British Aerobatic Association, Gliding Association, Balloon & Airship Club, Parachute Association, Precision Pilots Association, Microlight Association, Hang & Paragliding Association and Model Flying Association (formerly the Society of Model Aeronautical Engineers, SMAE). Other Member organisations are the RAeC Records, Racing and Rally Association, the Helicopter Club of Great Britain, the Light Aircraft Association (formerly the Private Flying Association, PFA) and the Formula Air Racing Association. Associate Member organisations include the Royal Aero Club Trust, the British Kite Flying Association, the British Women Pilots Association, the Historic Aircraft Association, Flying for the Disabled (to PPL/IR level), the RAF Museum and the Tiger Club.

In 1905 the Aero Club became a founder member of the Federation Aeronautique Internationale (FAI) representing it in the United Kingdom issuing Balloon Certificates from 1905, Aviators Certificates from 1910, Airship Pilots Certificates from 1911, Gliding Certificates from 1930 and Helicopter Aviator Certificates from 1947.

Turning to the RAeC Trust Dick stated that the objectives were to catalogue and conserve historic records and documents, photographs, paintings, trophies and other artefacts. Many of these are held at the RAF Museum, Hendon, where here and elsewhere Dick is involved in identifying and listing and sometimes tracking down items in this priceless collection.

Amongst the trophies held is the Schneider Trophy for the annual closed circuit seaplane race started in 1913, won outright for the United Kingdom in 1931 following three successive victories, by JN Bootham in a Supermarine S6B. The second race in 1914 was won by Howard Pixton in a Sopwith Tabloid. The annual Britannia trophy for the most meritorious performance by a British aviator was awarded to Bill Bedford in 1963 for P.1127 test flying, and the King's Cup, presented by King George V in 1922, is for an annual handicapped cross country air race. The artefacts include a piece of the Fokker Triplane in which Baron Von Richthoffen was shot down, a piece of the propeller from Louis Bleriot's cross channel monoplane and the sextant and compass used by Alcock and Brown on their Transatlantic flight.

The Trust also operates a Youth Bursary scheme funding 16 - 21 year olds with awards of up to £500 to improve their skills in recreational aviation activities managed by the individual RAeC organisations.

Details of the RAeC Trust and its collection can be found at www.royalaeroclubtrust.org.

After questions from the floor the vote of thanks was given by Chris Farara who said that Dick had given a most interesting and entertaining talk on a subject few in the large audience would be familiar with.

BAE SYSTEMS HERITAGE

John Parker came to the Hawker Centre on the 10th November to tell the Association about BAE Systems Heritage. He was accompanied by Barry Guess who looks after the archive at Farnborough and on this occasion erected the heritage display panels used by the Heritage group on visits and presentations. John started his aeronautical career as an RAE apprentice before moving into the industry, arriving at HSA Kingston in 1977 working for Programme Control. Later in Project Management he was British Aerospace's Harrier project Manager at Kingston and St Louis. In addition he is now the BAE Systems UK Heritage Manager covering air, land and sea activities, a 'part time' job which he is expected to do in just one day week!

BAE Systems' Heritage starts in 1510 with the foundation of the Royal Powder Factory at Waltham Abbey, Essex. This became the Royal Ordnance Factory which was in due course bought by British Aerospace. BAE Systems now covers land, marine, air and systems and is more than 50% USA based.

The UK Heritage Programme has two branches: the UK Heritage Project Group that supports museums, individuals and professional groups that cover BAE Systems' heritage, such as the Imperial War Museum at Duxford. The other is the Heritage Product Group which provided technical and financial support for projects that have airworthiness and safety considerations. These include the Battle of Britain Memorial Flight, the Royal Navy Historic Flight, the Shuttleworth Collection and de Havilland Support Ltd. Funds are provided by BAES and colleague Companies. Preservation activities cover airframes, restoration projects, technical drawings, photographs, artefacts, paintings and other works of art, and factory closures. The archive is housed at Farnborough.

BAES Heritage awareness is promoted at corporate and employee levels, to the media, to the Government and to the general public. Submissions to the US Government now have to include heritage information.

In closing John said that BAES recognises its responsibility to legacy Companies and the contributions made by employees, and continues to support activities and projects which will protect the heritage for future generations.

After the talk Members were invited by artist Mark Bromley to pick up a paint brush and add some colour to his painting of Harriers over Kingston, marking the 50th anniversary of the P.1127's first hover.

HARRIER CONNECTIONS

For Members of the Association who use LinkedIn on the internet Pete Munday has set up a group called 'Harrier connections' to provide a means for people who have worked on the Harrier to network, explore opportunities, exchange ideas or just keep in touch. For those not familiar with LinkedIn, it is like Facebook (and if you don't know what that is then ask a teenager, says Pete, or see <http://en.wikipedia.org/wiki/LinkedIn>) but for professional networking.

SEA FURY NEWS

An ex-Iraqi Air Force Fury has started post restoration flying in France. Owned by Christophe Jacquard and registered F-AZXX it was rebuilt by Sanders Aeronautics of California with a Wright R-3350-26WD engine in place of its original Centaurus. It is painted in the livery of Royal Australian Navy Sea Fury FB.11, WH589.

The Centaurus engine for the Royal Navy Historic Flight's Sea Fury VR930 is in the USA for overhaul where it will be fitted with data monitoring equipment. The aircraft should be flying again next year. Their two seater, VX281/G-RNHF, is undergoing flight tests with Kennet Aviation at North Weald towards gaining a CAA Permit to Fly.

BOOK REVIEWS

All of us whose interest in aviation started in the 1950s will find 'Empire of the Clouds' (Faber & Faber, ISBN 978-0-571-24794-3, rrp £20) by James Hamilton-Paterson completely absorbing. He chronicles the fortunes of Britain's then great aircraft industry from its glory days in the '50s to its decline and fall through misguided Government policies and inept management. He celebrates the great aircraft and personalities of the period, and as it says on the dust jacket, the book reminds us what it was like "to be alive in that marvellous post-war decade when innovative new British aircraft made their debut several times a year and pilots were the rock stars of the age", and tells us how Britain managed "to lose the plot so completely."

David Hassard has discovered that a book by Sydney Camm first published in 1919 when he was 26, has been reprinted in facsimile by BiblioBazaar, a US specialist publisher. 'Aeroplane Construction: A Handbook on the Various Methods and Details of Construction' is not an exciting read but it is full of interest. It is not only a record of the best practice in wooden aeroplane construction at the time but it also demonstrates Camm's fastidious approach and his great attention to the details of design. It also shows him to be a master of the English language, his descriptions of complexities being very clear. This 140 page gem can be obtained from www.amazon.co.uk for £10.99.

GRAHAM TOMLINSON MEDAL

Graham Tomlinson has been awarded the Guild of Air Pilots and Air Navigators (GAPAN) Derry & Richards Memorial Medal which is given in recognition of outstanding contributions in advancing the art and science of aviation, in this case for Graham's contribution to the F-35 Lightning II programme. Graham joined the Dunsfold test pilot team in 1986, rose to CTP, and from 2002 worked at Lockheed-Martin as the lead short take off vertical landing (STOVL) test pilot. He recently retired and is back in England and will talk to the Association on 9th February.

MEMBERSHIP AND HAWKER PEOPLE NEWS

We have just heard that Ray Barber of the Dunsfold radio department died over a year ago., and that he HSA/BAE agent in Indonesia, Raharto, died in December. Also many will remember Charlie Plummer, McAir's Harrier chief test pilot, who died recently.

We welcome new Members Frank Barrett, Peter Dodworth, Ray Grout, Simon Jackson, Alan Millican, Geoff Mudle, Adrian Orchard and David Whittam

MEMBERSHIP LIST JANUARY 2011

A: Mike Adams, Ken Alexander, Peter Alexander, John Allen, **Martin Alton**, Peter Amos, Terry Anstey, Alma Apted, **Steve Apted**, John Arthur, Alan Auld, Bryan Austin, **Mike Azzopardi**. **B:** Brenda Bainbridge, Arthur Balchin, Colin Balchin, Ambrose Barber, **Paul Barber**, Derek Barden, Peter Barker, Frank Barrett, Geoff Barratt, Graham Bass, Ken Batstone, **Dennis Baxter**, **Dennis Becket**, Colin Bedford, Anne Beer, David Betteridge, George Black, Guy Black, John Blackmore, Keith Bollands, Paul Boon, Betty Bore, Pat Bott, Steve Bott, Bob Bounden, Alan Boyd, **Pat Boyden**, **Phil Boyden**, Roy Braybrook, Clive Brewer, Laurie Bridges, Doug Britton, Arthur Brocklehurst, Eric Brown, Peter Brown, Ron Bryan, Christopher Budgen, **Maurice Budgen**, Roy Budgen, Reg Burrell, Robin Burton, Dave Byford. **C:** Richard Cannon, Maurice Carfile, Chris Carter, Tom Casey, Bob Catterson, **Jeremy Cawthorne**, Colin Chandler, Keith Chapman, Keith Chard, Gerry Clapp, JF Clarke, John Cockerill, Hank Cole, Percy Collino, Brian Coombes, Paul Cope, **Patricia Cosgrove**, **Ron Cosgrove**, **George Cotterell**, Nick Cox, Mike Craddock, Shirley Craig, Richard Cripps, Tony Cripps, Russ Culley, Richard Curtis. **D:** **Tony Dalby**, Clive Dalley, **Andy Dalton**, John Danse, Afandi Darlington, John Davie, Jo Davies, **Ken Davies**, Trevor Davies, **Charles Davis**, Michael Davis, Diana Dean, Ralph Denning, Norman Deviel, Mike Diprose, **Richard Dobbs**, Mike Dodd, **Colin Dodds**, Peter Dodworth, George Dow, Lambert Dopping-Heppenstal, Bill Downey, **Brian Drew**, Peter Drye, Dick Duffell, Jean Duffell, Gwen Duke, Chris Dunhill, Mike Dyke. **E:** John Eacott, **John Eckstein**, Andy Edwards, Dave Edwards, **Barry Elliot**, Tony Elliott, Eric Ellis, Celia Evans, Norman Evans, Roy Evans. **F:** **Russ Fairchild**, **Paul Fairweather**, Ian Fakoner, Mike Fantham, Chris Farara, John Farley, John Farrow, **Max Fendt**, Donna Ferguson, Stan Field, Geoff Fieldus, Mike Finlay, Wilf Firth, Anne Fletcher, **Richard Fletcher**, Colin Flint, Dave Fowler, Mike Frain, Steve Franklin, Harry Fraser-Mitchell, Geoff French, Mike French, Heinz Frick. **G:** **Roy Gaff**, Mike Gane, John Gardner, Patricia Gardonio, Peter Gates, Sandie Gear, Tim Gedge, **Mark Gerrard**, Tony Gibbs, John Gilbert, John Glasscock, Pat Goodheart, Eric Goose, **John Gough**, Andy Green, Barry Grimsey, Ray Grout. **H:** Douglas Halloway, Liz Hargreaves, Simon Hargreaves, Bryan Harman, Guy Harris, Thelma Harris, Brian Harvie, **David Hassard**, David Hastie, Sandy Hay, Norman Hayler, Eric Hayward, Bob Head, Sheila Hemsley, Brian Hennegan, Jock Heron, Keith Hertenberg, **Frederick Hewitt**, **Merlin Hibbs**, Richard Hickey, Peter Hickman, Vince Higbee, Reg Hippolite, Keith Hobbs, Chris Hodson, Gordon Hodson, Derek Holden, **Richard Hooke**, Ralph Hooper, Linda Hopkins, Paul Hopkins, Mike Hoskins, Gerry Howard, Dawn Howes, Terry Howes, Simon Howison, **Miles Huckle**, Gavin Hukin. **I:** Pete l'Anson, Len Illston, Maive Impey, David Ince, Brian Indge. **J:** Keith Jackman, Simon Jackson, John Janes, Gordon Jefferson, Harry Johnson, John Johnson, Andy Jones, **Brian Jones**, Ian Jordan, Robin Jowit, Alf Justin. **K:** **Andrew Keech**, Barry Kensett, **Brian Kent**, **Dennis Ketcher**, Bill King, Dave King, Charles Kirk. **L:** **Barry Light**, Mike Laker, Charles Lamb, Richard Lane, George Latham, Paul Latham, Pam Lawrence, Andrew Lawson, Stanley Lawson, Geoff Lee, Mark Lewis, Vernon Lidstone, Gary Lillistone, **Andrew Lloyd**, **Dawn Lloyd**, David Lockspeiser, Norman Long, Terry Long, Basil Lockwood-Goose, **Gordon Lorrimor**, David Lovell, Lynda Lucas. **M:** **Albert Magee**, Al Mahoon, Mick Mansell, John Marsh, Ann Martin/Dispain/Turk, Brian Maton, Don McGovern, June McKeon, Mike Mendoza, Alan Merriman, **Richard Mickelfield**, Jim Middleton, Buffy Milford, Robert Millar, Alan Millican, Jack Mills, **George Mitchell**, Brian Monk, Pat Moon, **Leslie Moore**, Pauline Moore, Nicholas Morland, Geoff Mudle, Pete Munday, Carole Murphy, Gloria Murphy, Martin Murray. **N:** Mike Newell, Anthea Newman, Jennifer Nicholas. **O:** Roger O'Brien-Hill, John O'Sullivan, Chris Oliver, Adrian Orchard, Robin Owen. **P:** Les Palmer, Glynnie Parker, John I Parker, John L Parker, John Partridge, Bernard Patrick, John Pearce, Barry Pegram, Martin Pennell, **Bill Phillips**, **Ted Pincombe**, Dick Poole, Don Pratt, Dave Priddy, **Mike Pryce**. **Q:** **John Quinn**. **R:** Clive Radley, Frank Rainsborough, Colin Raisey, Paul Rash, Diane Raymond, Vanessa Rayner, David Rees, Peggy Remington, Francis Rhodes, Geoff Richards, Bill Richardson, **Kelvin Richards**, Chris Roberts, Graham Roe, **Chris Russell**, Peter Ryans. **S:** Ian Sandell, Tim Sargant, Bemie Scott, Orde Peter Scott, Alex Seaman, Ray Searle, Maurice Shakespeare, Mike Sharland, Arthur Sharpe, Douglas Shorey, **Peter Sibbald**, Duncan Simpson, Derek Sims, Gerry Sims, **Charles Smith**, **George Smith**, **Harold Smith**, John Smith, **Karl Smith**, Pete Smith, **Selwyn Smith**, **Roy Sparrow**, Don Spiers, Peter Spragg, June Stephens, John Strange, Carroll Stroud, Christine Studwick, Tony Studwick, **Douglas Stubbs**, Bill Swinchatt. **T:** David Taylor, **Stuart Taylor**, Brian Tei, **Reginald Thompson**, Geoff Tomlinson, Graham Tomlinson, Rod Tribick, Peter Trow, **Ron Trowell**, Bert Turner, Michael Turvey. **U:** John Underhill. **V:** Roland Van Haften. **W:** Terry Walker, John Wallace, David Ward, Harry Webb, Patrick Webb, **Graham Weller**, Rob Welsh, AP West, Bryan West, Judith Westop, **Jenny Wheatley**, **Phil Wheatley**, Jan White, Mick White, Roy Whitehead, Peter Whitney, David Whittam, Annette Williams, Don Williams, John S Williams, Ron Williams, Sally Williams, Colin Wilson, George Wilson, **Hilda Wilson**, Paul Wilson, Dick Wise, **Helen Woan**, Kuo Wong, George Woods, **Alan Woolley**.

Found at Brooklands after the P.1127 Lunch - pair 'gold' spectacles - contact the Editor.