



NEWSLETTER 61 - AUTUMN 2021

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EDITORIAL

This is a very sad issue of the Newsletter as it records the death of Barry Pegram whose idea it was to form the Association and who served as our secretary from the very start. All we Members owe him a great debt of gratitude for the pleasure and interest we have enjoyed in the Association over the last twenty years.

Thank you to all who have sent contributions or have given talks. Do not worry; all will be published or continued as space allows.

Send Newsletter contributions to the Editor, Chris Farara at cjfarara@ntlworld.com or by post to 24 Guildown Road, Guildford, Surrey, GU2 4EN. Phone 01483 825955

IMPORTANT NOTES

If any Member has NOT received an e-mail from the Association recently (e.g from Richard Cannon or Chris Roberts) **PLEASE** e-mail the Secretary, Dick Poole at - secretaryhawkercommittee@gmail.com - to provide your current e-mail address.

Also, if you would prefer to receive the Newsletter by e-mail **ONLY** please also let the secretary know. If you wish to continue receiving a paper copy do nothing.

PROGRAMME FOR 2021

Wednesday 11 th August	Summer Barbecue at the YMCA Hawker Centre
Wednesday September 8 th	David Hassard - Tom Sopwith and his Aviation Company.
Thursday 16 th September	G-VTOL 50 th Anniversary Event at Brooklands Museum.
Wednesday October 13 th	TBD
Wednesday November 10 th	TBD
Wednesday December 8 th	Christmas Lunch at the YMCA Hawker Centre

Further events to be promulgated to Members via e-mail.

The **traditional barbecue** will as usual be at the YMCA Hawker Centre with burgers, chicken, sausages, salads, deserts and tea or coffee. Tickets in advance for £15 each (guests welcome) from Ken Batstone at 42 King's Road, Walton on Thames, Surrey KT12 2RA. Cheques payable to the Hawker Association, please.

David Hassard's talk will be 'live' at the YMCA Hawker Centre and, as a trial, **also** on Zoom.

Further details of the **G-VTOL event** by e-mail to Members from Richard Cannon.

It is hoped that subsequent talks will be 'live' and possibly on Zoom. Richard Cannon will keep Members informed by e-mails and provide links.

BARRY PEGRAM 1939 - 2021

On completion of his Indentured Aeronautical Engineering Apprenticeship with Hawker Aircraft Ltd Barry joined the Hawker Project Office at Kingston whilst still studying for his Masters in aerodynamics at Imperial College, London. In the Project Office fluid dynamics group he had extensive involvement in the pioneering jet V/STOL P1127 and its planned developments, the advanced Hawker Siddeley P1150 and P1154.

With the Company name change to British Aerospace Barry became the fluid dynamics group leader in the Airframe Engineering Department where he was deeply involved here in the UK, in France, in Switzerland and in the USA in important development aspects of the Harrier and its subsequent variants. From being Deputy Head of Aerodynamics he progressed in 1988 to become the Chief Aerodynamicist responsible for a team of some 70 aerodynamics, performance, stability and control and structural dynamics engineers.

On the T-45 Goshawk version of the Hawk for the US Navy his work on critical tailplane stall issues resulted in the design and development of rear fuselage mounted tailplane leading edge vanes which were fitted to all subsequent Hawk variants.

In 1992 he moved to British Aerospace's new offices at Farnborough as the Chief Airworthiness Engineer which brought with it work in the systems safety and accident investigation areas, working closely with the Dunsfold test pilots.

A Chartered Engineer, Barry was a Fellow of the Royal Aeronautical Society, a member of its Historical Committee and a long serving a committee member of the Weybridge Branch. Barry taught final year aeronautical engineering students at Kingston University and attended a Moscow Aerospace School course with them. He worked

with John Farley on the latter's Schools' Aerospace Challenge. He was the instigator, a founder member and Secretary of the Hawker Association and a Trustee of the Kingston Aviation Heritage Trust. In 1996 he was appointed MBE by Her Majesty Queen Elizabeth II

Outside the world of aeronautics Barry had a lifetime affiliation with the Scouts movement and became Vice President of the Royal Kingston Scouts with whom he led camping expeditions both here and overseas. He loved music (especially Gilbert & Sullivan), had an intense interest in gardening, and enjoyed travel.

Barry has always been a dedicated family man who leaves a widow, Rosie, and children, step children and grandchildren. He will also be sadly missed by all those who had the privilege of knowing and working with him over so many years.

HUNTER T7 XL263

Chris Roberts reports on progress...

The project is alive and well. However, over the past 18 months the programme has suffered as might be expected given the restrictions on movement and mixing. We have also had difficulties at Brooklands because they are unable to continue supporting the project in the way it was agreed at the outset. It was nearly a perfect storm because it looked as though our future access to Dunsfold was also going to be curtailed but the housing development has been put on hold so we are still there. There is some good news because we have been able to buy a large piece of replacement fuselage (for a very modest cost) and this will save us a year or more in restoration time. This will help to put the programme back on track and now that things have opened up we will be able to re-engage with Kingston council. Expect a more detailed brief on the project status in the next Newsletter.

HARRY HAWKER - 1889 to 1921

David Hassard reports...

On 12th July 1921 Harry Hawker died following a crash in a Nieuport Goshawk which he was testing prior to racing in the 1921 Aerial Derby at Hendon. On 18th July 1921 the street in Hook four miles south of Kingston was packed with mourners as the funeral cortege made its way slowly past his home to St Paul's church less than 100 yards away. The funeral was attended by many famous names in British aviation, not least his close colleagues Thomas Sopwith and Fred Sigrist.

The King sent a message of condolence, "The nation has lost one of its most distinguished airmen, who by his skill and daring has contributed so much to the success of British aviation."

The memorial at his grave immediately inside the lychgate of St Paul's church simply reads - IN LOVING ADMIRATION OF HARRY GEORGE HAWKER AFC WHO GAVE HIS LIFE TO THE SCIENCE OF AVIATION AFTER NINE YEARS IN ITS SERVICE. BORN JANUARY 22ND 1889. DIED JULY 12TH 1921. "SAFE".

Exactly 100 years later on Sunday 18th July 2021, a small information lectern at the foot of his grave was unveiled by Cathy Dimsdale, one of the three of Harry's granddaughters present at St Paul's, with a gathering of some 40 people to recognise his life and tragic early death in a simple poignant commemoration service. The Hawker Association helped the church archivist with the wording for the lectern and the Hawker Association and Kingston Aviation Centenary Project contributed to the cost and were represented at the service by Chris Roberts and David Hassard along with Hawker Association members Frank Rainsborough, Richard Cannon and Kieron Kirk.

HUNTER 70th ANNIVERSARY

Visit organiser Dick Poole reports...

A group of 28 Association Members and guests visited Tangmere Military Aviation Museum on the 20th July to a commemoration of the 70th anniversary of the first flight of the P.1067, Hawker Hunter prototype WB188, from A&AEE Boscombe Down. The aircraft, converted to be the only Mk 3 (with reheated Avon) is displayed in immaculate condition in the museum. Neville Duke CTP (Chief Test Pilot) of Hawker Aircraft Ltd at Dunsfold made an approximately 60 minute sortie after a series of ground acceleration-stops at ever increasing speeds to determine a suitable airspeed for lift off. On landing after general handling checks he declared the aircraft to be "jolly good".

The day's programme started with a period of socialising which members enjoyed having not been able to do this since March 2020. The group was then welcomed to Tangmere by Dudley Hooley, Chairman of the Museum. A short presentation by Museum Director David Coxon on the first flight of WB188 revealed that Sir Sidney Camm was delayed in setting off to Boscombe Down and arrived after the flight was over and the observers had left.

A presentation by Association Member Kieron Kirk covered the numbers of aircraft produced, the range of marks and the customers who operated them. He also described the re-manufacturing and upgrading of early aircraft which proved very profitable for Hawker.

Heinz Frick, retired Dunsfold CTP, then described what the Hunter was like to fly operationally and noted its serviceability problems in the very hot and wet climate in the Far East. He explained that the squadrons suffered many electrical failures as a result. He and Chairman (also a retired CTP) Chris Roberts agreed that the aircraft was a "dream machine" to fly and praised its handling characteristics.

Finally, the writer made a brief presentation on the successful World Absolute Airspeed record attempt at low

level off Little Hampton, the modifications to the aircraft, the course and the work-up flying. Prior to the record attempt the port main leg extended un-commanded resulting in a massive wing drop at 540 mph and 1,000ft. This was skilfully arrested by Neville who carried out a nose- and main-wheel landing at Dunsfold after handling checks in the landing configuration. The port wing and gear were removed for repair at Kingston and the aircraft was ready to fly on the 7th September when two attempts were made and a record of 727.6 mph was achieved.

Chris Roberts thanked the museum management and staff for hosting the event. This was followed by a sandwich lunch, more socialising and a group photograph in front of WB188 taken by the redoubtable Frank Rainsborough (Contact Richard Cannon for a link to see this and others of the day's activities).

The management and staff of the museum were very supportive in organising and realising this event and I would recommend a visit to anyone.

TALKS - YOUTUBE RECORDINGS

Please contact Richard Cannon (richard@commonr.me.uk) for members-only links to play the YouTube recordings of talks.

ROYAL AERONAUTICAL SOCIETY CLASSIC LECTURE

Mike Pryce says that the lecture given by the late John Crampton to the Society in January 1971 can be listened to by Googling 'RAeS Classic Lecture, from Sopwith Aviation to Hawker Siddeley Aviation at Kingston'. Within the lecture are recordings of several RAF and Hawker personalities.

AVIATION PAINTING

On April 14th, after the 2021 Zoom AGM, Hawker Association President, Colin Wilson, entertained us with the story of his life in aviation painting. For his talk Colin chose a selection of works to show his love of painting as a hobby that spans 70 years. He was never happier as a boy than when drawing things; things that caught his eye in his Wiltshire surroundings, from farm tractors to aeroplanes, both in plentiful supply with farms down every lane and RAF Hullavington nearby. After moving to Surrey in 1950 and an education at Ottershaw School, Colin joined Vickers to begin his career in the aircraft industry.

Colin first learned of the Kronfeld Aviation Art Club from an article in Flight magazine. Hosted at The Kronfeld Club in the basement at 74 Eccleston Square, SW1, it held an annual exhibition and competition and was wanting to encourage amateur painters to exhibit alongside a small group of professionals. These included such luminaries as David Shepherd, Michael Turner, Gerry Coulson, John Blake and Roy Nockolds. Colin decided to join the Club (membership £3) and entered his first work in 1965. He tried several different media starting with oils and watercolours but also using pen and ink wash, a technique used extensively by many book illustrators including one that Colin greatly admired, landscape artist Edward Seago.

Colin then showed examples of his developing work starting with a pen and ink wash drawing of a Walrus made using Parker black ink with dilutions to give form to the aircraft. Next was another monochrome image but this time an oil sketch of a Sunderland 'On Patrol'. He included this because it was his first ever demonstration and it was to a Guildford art club in response to a request from a Flight Development colleague (That's me. Ed!). Next Colin showed his first Harrier painting to be exhibited at the Kronfeld Aviation Art Society Annual Exhibition in London in 1970. It was titled, 'Harrier STO' and was bought by the Vice Chairman of the organising committee, John Blake. It was also mentioned by the Chairman of the Judging Panel, Frank Wootton, in his Report on the Exhibition. His walk-about observations of the works were always worth reading even if your entry was not among those to attract his attention but on this occasion my painting was and this is what he had to say about it: "C J Wilson who so ably succeeded with his Harrier painting has a remarkable resource for zestful enjoyment in applying his paint, a tremendous asset I would recommend to any illustrator who wished to impart a feeling of excitement to his work." That was really quite encouraging.

Next came a colour image of Harrier XV 740 of 'A' Sqn Boscombe Down approaching HMS Eagle for a vertical landing in March 1970. Colin was present with John Farley for the two week duration of these sea trials, the first with the Harrier to explore and define safe operational limits for deck operations and enable the issue of a CA Release for ship deployments. As Colin had mentioned earlier, the painter Edward Seago had become a major influence in how he wanted to paint landscapes and the next painting was a winter view of Arundel Castle painted 'en plein air' in January 1970 and was a conscious 'nod' to how he thought Seago would go about it.

A large oil-on-canvas painting of a Hunter FGA Mk 9 was entered in The Guild of Aviation Artists first exhibition in 1971, 'The Premier Exhibition', subtitled 'Flight Through the Ages', held at The Royal Aeronautical Society. It failed to tempt a buyer but two smaller sketches, of a Hurricane and a Beaufighter, did.

Between 1971 and 1976 Colin continued to have work accepted for the Guild's Annual Exhibition and also to sell well, including the next painting, 'Sunderland at Rest', at the Mall Galleries in 1976. The exhibition was to be Colin's last for the next few years due to the family taking up residence in St Louis. There was however an exciting piece of news that arrived in a letter from the Chairman Roy Nockolds, to say he was happy to tell Colin that at a meeting of the Full Members at the Mall Galleries "you were elected to Full Membership so that you may now use the

GAva after your name, should you so wish”.

Painted in St Louis the next picture, an oil of an AV-8A, “Raising the Dust”, was presented to Lieutenant General T H (Tom) Miller, US Marine Corps, to mark the occasion of his retirement, by K-B Managing Director, Colin Chandler at a Dinner hosted by British Aerospace in Washington DC. Lt General Miller was the first US Marine to fly the aircraft and played a leading part in its acquisition for the Marine Corps. Another picture inspired whilst in the USA when waiting at the holding point to depart New York La Guardia for St Louis, was of an inbound TWA 727 approaching to land. Called ‘Stormy Weather’, it was Colin’s only entry for the Guilds 1983 Exhibition and found a buyer.

The next painting, of the prototype Hurricane taking off for its first flight, was painted for the 50th anniversary of the event on 6 November 1935, on the occasion of the Royal Aeronautical Society’s gathering at Brooklands to celebrate the Sir Sydney Camm team that had created this outstanding fighter. It now hangs at Brooklands in the Director’s office. A painting of the INS Viraat (previously HMS Hermes) was presented to her Commander, Captain Pasricha, at Devonport Naval Base in 1987. The Indian Navy kindly allowed its inclusion at the Guilds’ Annual Exhibition marked in the catalogue, ‘NFS – Kindly loaned by the Indian Navy’.

Colin had ‘Side Canal, Venice’ accepted for Royal Institute of Painters in Oils 2007 Annual Exhibition at the Mall Galleries. He had been advised before entering to forget Venice because the ROI professionals take all the Venice slots. He had only prepared three works and regarded this to be the best so it went forward and it was selected by the hanging committee whilst the other two were rejected.

‘Waiting at the Departure Gate, St Louis’ was sketched in ball point on 7 December 2003. Colin had been in town to attend the last AV-8B delivery at the former McDonnell Aircraft plant but with Boeing now writ large across the buildings and entrance gates - this did not sound right to him!

For a painting of the Harrier approaching Royal Fleet Auxiliary Green Rover’s small flight deck off Greenwich Colin had to imagine being in ‘close formation’ with Tony Hawkes as he moved slowly towards the landing spot. The demonstration took place in September 1971 but Colin did not get around to painting the picture until well into his retirement in 2007! A demo of a different kind was the painting he did at the Kingston YMCA in February 2010 for the Association. When the session ended there was still quite a lot to do before the picture could be called finished but all was completed and suitably framed before its presentation to the Hawker Association’s First President, John Glasscock, on his retirement from that office.

There followed three paintings of Japan where Colin and his wife Frances were based for five years. Apart from a holiday in Australia all other leave was taken in-country from Hokkaido in the north to Shikoku by the Inland Sea and Kyushu in the southwest and of course Honshu the main island where they lived in Tokyo. One was exhibited at the Guildford Arts Summer Exhibition at the Yvonne Arnaud Mill House Gallery in 2016 where it found a buyer.

Then came three paintings which featured tidal waterways which offer very attractive landscape subjects. They were ‘Early Light Fareham’ also exhibited at the previously mentioned Summer Exhibition venue in Guildford where it sold, together with ‘Low Tide Dell Quay’, and a river scene at Eel Pie Island near Twickenham which sold at the Haslemere Art Society’s annual exhibition.

The last picture Colin showed was of a Harrier which he painted in response to a request from the Chairman of the Guild of Aviation Artists who asked Full Members if they would donate a small painting for the 2019 Annual Exhibition. The paintings all had to be of A5 size, of an aircraft of choice that would be sold in an unmarked envelope for a ‘blind’ lucky-dip fundraising sale at the exhibition. That was the last live exhibition at the Mall Galleries as it turned out and the lucky dip box at the sales desk emptied in rapid time.

THE 40th ANNIVERSARY OF THE FALKLANDS WAR

On May 12th Rowland White, who was introduced by Chris Roberts, gave a Zoom talk to the Association marking this anniversary. The speaker works in publishing and is a commissioning editor with Penguin Books and has himself written a number of successful books including ‘Vulcan 607’ (the Black Buck raids on the Falklands), ‘Phoenix Squadron’ (Ark Royal and Buccaneers in defence of Honduras), ‘Storm Front’ (the SAS and Strikemaster operations in Oman) and ‘Into the Black’ (the Space Shuttle Columbia story). Interested in aviation since a schoolboy, Rowland was captivated by the Falklands campaign reports when he was eleven years old and this inspired his latest book, ‘Harrier 809’, and this Zoom talk.

It has been said about the Falklands war that “never has so much been written about so little” making Rowland wonder if another book was really needed. However, Sharkey Ward, Dave Morgan and Jerry Pook had written about 801 and 800 Naval Air Squadrons (NAS) and RAF 1F squadrons but the story of attrition squadron 809 NAS had not been told. Also, under the 30 year rule much new information had been declassified and made available. The clincher was that 809 NAS was to be the second F-35B squadron. So Rowland embarked upon two to three years of research which revealed that the ‘809’ story opened a window on a broader canvas including activities by the RAF, Chile, Special Forces, MI6, obscure defence establishments and, of course, industry.

‘809’ was a most unusual squadron whose rebirth was prompted by a Royal Navy study which indicated that after one week of fighting in the South Atlantic the Sea Harrier force of 20 aircraft could well be halved by combat losses, accidents and unserviceability; and 10 jets would not be enough. Clearly there was an urgent need for

replacements.

The job of forming this attrition squadron was given by Flag Officer Naval Air Command (FONAC), Ted Anson, to Lt Cdr Tim Gedge, a Sea Vixen, Phantom and Sea Harrier pilot, and senior pilot of NAS 764 at Lossiemouth, the Royal Navy's fighter school. He had also recently relinquished the post of commander of the first front line Sea Harrier squadron, 800 NAS, for which the new task somewhat compensated him after he had watched his previous colleagues embark for the Falklands.

On the day that 809 NAS was re-commissioned there was one Sea Harrier (from the reserve at St Athan) on the books and Tim Gedge had been given just three weeks to have his squadron ready to go south. More aircraft were retrieved from Boscombe Down, Farnborough and Dunsfold. An accelerated build programme got ZA194, still under construction at the end of March, flying at Dunsfold on April 23rd, at Yeovilton five days later and off to war two days after that.

Pilots also had to be found. Exchange pilots were recalled from the USA, from Australia, and from the RAF, as was the pilot operating the Sea Harrier simulator at Yeovilton. RN reserve pilot, Taylor Scott, a Sea Harrier test pilot (TP) at Dunsfold, although ideal, was not eligible as the Falklands was classified a 'conflict' and not a 'war' so he stayed in the UK test flying in support of the effort. Also not permitted to join '809' were UK, US and Australian Sea Harrier TPs at Boscombe Down. So Tim Gedge approached the RAF Harrier community looking for air defence experienced pilots. A number were recruited and with only a couple hours of conversion to the Sea Harrier and its radar system were off to war. The '809' Sea Harriers would fly from Yeovilton to Ascension, with Victor tanker support, via Banjul in The Gambia and then VTOL onto the Cunard container ship, Atlantic Conveyor, for the journey south. The final step was to VTOL on to HMS Hermes and join the war.

The Sea Harrier had initially faced strong opposition from the traditional big carrier-Phantom and Buccaneer aviators who saw the Harrier as an air show novelty that could just about "carry a matchbox across a football field". This was in spite of the fact that the Sea Harrier would offer the potential for limited organic air power aboard the new generation of anti-submarine cruisers without needing steam catapults and arrestor gear. John Farley was sent to convince these officers. He was given a rough ride so told them bluntly that they were not going to get what they wanted but if they listened they might find that the Sea Harrier would be a lot more useful than they gave it credit for - and it was the only show in town. The case was made for embarking small numbers in the new ships primarily to shoot down Soviet long range patrol aircraft, not fleet protection interception which was already an RAF role within NATO. Goading the RAF would only strengthen their opposition.

The Harrier continued to be undervalued even within the Navy and it was not until 1982 with the Sea Harriers operational that the benefits began to be appreciated. Rowland explained some of the advantages that STOVL endowed. On the container ship Atlantic Conveyor taking 809's Harriers south one Sea Harrier was kept at readiness on a small deck platform able to take off, intercept Argentine reconnaissance Boeing 707s up to 180 miles away and return to the ship. Only with Harriers was it possible to send a pilot with no carrier experience to land on a ship thousands of miles away. Only Harriers could keep operating in sea states that would ground conventional aircraft on big carriers. Only with Harriers could you designate an oil platform as a diversionary landing place on a long over sea flight. Prime Minister Margaret Thatcher wrote in her memoirs, "Without the Harriers we could not have retaken the Falklands".

After the war '809' returned to the Falklands aboard the second Invincible class ship, HMS Illustrious, to defend the islands pending the repair and extension of Port Stanley's runway. The Sea Harriers now had improvements that had been rapidly developed during the war: bigger, 190 gal, drop tanks to increase endurance by forty minutes, twin Sidewinder launchers doubling the missile load and fuselage mounted chaff and flare dispensers for defence against missile attack.

In December 1982, after nine months and its second tour of duty in the Falklands, '809' was decommissioned once again. Today, forty years later, we are looking forward to seeing '809' flying F-35B Lightning IIs from HMS Queen Elizabeth and Prince of Wales. This new aircraft owes a debt to Hawker and its Harrier predecessor. Also, the 'unified' single lever flight control system was conceived and developed by RAE Bedford in the second Harrier T2, XW175, the VAAC (Vectored thrust Aircraft Advanced Control) Harrier.

There was a questions-and-answers session after Rowland's very interesting talk and then the vote of thanks from Speaker Secretary Frank Rainsborough.

A review of "Harrier 809" can be found in Newsletter 59.

FROM CAYLEY TO CONCORDE AND BEYOND

On June 9th Karl Smith gave an illustrated Zoom talk to the Association which was his personal view of the development of aviation. In a period spanning over 62 years Karl worked in a number of posts for several firms in the aircraft industry. Before that his family had been involved in aviation from its very earliest years so between them in an uninterrupted period up to 2013 they covered just a few years short of a century in aviation. Karl was born in Carshalton, brought up and educated in Croydon where he later learned to fly. He worked for 2½ years in the Installations Department of HAL Kingston.

His talk began with the myth, legend and history of aviation before summarising how in the next 100 years the early weird and wonderful devices evolved into practical flying machines. Karl's informative talk covered the topics of

fuel consumption, noise and other impacts on the environment. He emphasised the great significance of Sir George Cayley's work in defining the basic layout of the modern aeroplane: monoplane with adjustable fin and tailplane and a fuselage for the pilot. In 1852 his coachman was persuaded to fly in a glider to this design and apparently made one flight but refused to try again. The soundness of design was confirmed in 1973 when Derek Piggott successfully flew a full scale reproduction, a video of which was shown by Karl.

For the private Members' link to the YouTube recording of this talk please contact Richard Cannon.

LEO, THE WORLDS FIRST BUSINESS COMPUTER

On Wednesday 14 July Neville Lyons talked to the Association by Zoom on the Lyons Tea Shops Company's far sighted recognition of the need to automate their essential business processes such as stock control and pay-roll as a way to manage costs and provide scope for expansion. LEO (Lyons Electronic Office), the world's first business computer, was designed and manufactured in-house by the catering company.

Neville served as a Regular Royal Signals Officer for 31 years followed by a second career as Executive of National and European Electronics Trade Associations. One of his retirement occupations has been researching his family history where he found proof of his relationship to Sir Joseph Lyons co-founder of J Lyons & Co., the giant catering company. Sir Joseph was a cousin to Neville's grandfather and this led him to deeper research into the company's history and the story of LEO.

Neville described the origins of the J Lyons company, its famous Tea Shops and Comer House Restaurants (leading to nostalgic memories by the Editor of treats as a schoolboy with his parents - delicious lunches to the accompaniment of string quartets). Large scale manufacture of 'Swiss rolls' and other catering products, the setting up of tea and coffee divisions and so on, established the need for a system to manage this now complex business. There were no commercially available computers available for such a purpose so the company set about doing it themselves by employing the best available experts; the result was LEO.

Contact Richard Cannon for the private Members' link to the YouTube recording of this little known remarkable success story of British pioneering in the world of business computing.

A CIVIL JUMP-JET - G-VTOL IS 50 YEARS OLD!

The editor marks this historic occasion....

A long-time resident in the Brooklands Museum is a grey and white Harrier two-seater, Hawker Siddeley Aviation's (HSA) Harrier Mk52 demonstrator, usually referred to by its civil registration, G-VTOL (pronounced 'gee veetol'), one of the first in the UK register to be 'personalised'. The aircraft was funded jointly by HSA and their Harrier suppliers who provided equipment on-loan or free of charge, including Rolls-Royce Bristol who provided engines. Assembled at HSA Kingston. G-VTOL was the twelfth two-seater and made its first flight, from Dunsfold, with Duncan Simpson in Sept 1971 and soon became the world's first jet V/STOL aircraft with a civil Certificate of Airworthiness. Equipped with airliner-standard communications and navigation equipment 'VTOL' was ready to fly the airways of the world.

It was a striking sight in its patriotic red, white and blue livery designed by Harrier Chief Designer John Fozard, personally. Soon it would appear in desert camouflage and later in naval grey and white, as the marketing emphasis changed. It also would wear the military serial ZA250 to allow the carriage of trials weapons, not permitted on civil aircraft. The primary purpose of the aircraft was to enable potential customers' pilots and influential officials to experience Harrier flight first hand under the guidance of a Company pilot and so demonstrate the many outstanding and unique qualities of the type and show that an ordinary, suitably experienced pilot, could fly it.

G-VTOL nearly came to a premature end when it over-ran the Dunsfold runway on flight 12, just three weeks after first flight. However, it was ready again in May 1972, repainted in desert camouflage, and set off in June, with Tony Hawkes and John Farley, on a delayed Middle East and India sales tour managed by Kingston marketing executive Johnnie Johnson, accompanied by the sales and maintenance teams in an Avro 748.

Marketing stops were made at Tehran and Kuwait before setting off for Bombay and Cochin, hampered by the monsoon weather activity. From the Cochin base the aircraft was flown aboard the Indian Navy carrier INS Vikrant by Farley. In two days he flew 17 sorties from the ship plus two return trips from Cochin to Vikrant. The first days' operations were to establish handling and performance data relevant to the ship and local conditions (a Dunsfold flight test team led by Eric Crabbe had flown out) and the second day was devoted to flying Indian Navy pilots. Next, interrupted by the heavy monsoon rains, G-VTOL left Cochin, with an IN officer on board, for Goa and thence to Delhi, demonstrating a low level mission requested by the IN. In Delhi there was more IN pilot familiarisation with Hawkes and Andy Jones who had replaced Farley in the team. From Delhi G-VTOL flew via Bombay and Mashrah to Abu Dhabi, one of the Emirates on the Persian Gulf. A demonstration by Hawkes to the Ruler and Minister of Defence had been organised to take place at a semi-prepared strip near Al Ain. Whilst hovering in front of the assembled VIPs a cloud of dust engulfed the aircraft which hit the ground hard breaking an outrigger and the nose leg...end of tour. G-VTOL was flown back to Dunsfold in a Canadair CL-44 Guppy to be repaired and John Farley returned to the Middle East and demonstrated a GRMk1 to show that there was nothing fundamentally wrong with the aircraft. Harriers were never sold in that region but the Indian Navy did eventually become an important customer for the Sea Harrier.

G-VTOL flew again in February 1973, did a lot of pilot familiarisation work, made the first of many appearances at the Le Bourget Paris Air Show and was then air-freighted to Rio where it was assembled and air tested prior to an extensive tour of South America managed by John Parker, Kingston's South American marketing executive. The pilots were John Farley and Don Riches. The Tour ran from Sept 12 to October 19 with demonstrations, pilot familiarisations and even carrier operations, during 62 flights. The route was Brazil: Galeo (Rio), San Jose (Sao Paulo), Santa Cruz, San Pedro, Galeo - Paraguay: Asuncion - Bolivia: Cochabamba - Peru: Lima - Ecuador: Guayaquil, Quito, Guayaquil, Quito - Peru: Lima, Las Palmas, Lima where the aircraft was broken down for return to Dunsfold in a CL-44 Guppy. The Sao Paulo Air Show was attended and the Brazilian Navy carrier, Minas Gerais, was visited from Santa Cruz. In spite of generating great technical interest in the Harrier no orders resulted from the tour but spectacular publicity photographs were obtained including G-VTOL flying past the Corcovada statue of Christ at Rio and hovering in front of the enormous airship hangar at Santa Cruz.

Next, in November, a group of French naval aviators was familiarised in preparation for trials on the French Navy carrier Foch, with John Farley again, and later that month G-VTOL was flying from HMS Bulwark. In January 1974 it was off to Algeria, in May it was Italy, September the SBAC Show where the BBC's Raymond Baxter broadcast from the back seat during a Farley demonstration.

Throughout its flying career UK demonstrations and pilot familiarisations were interspersed with the more exciting overseas and development work. In 1975 G-VTOL flew from HMS Engadine, HMS Bulwark and HMS Fearless, attended the Paris Air Show, and trained McDonnell-Douglas test pilots Charlie Plummer and Bill Lowe in the art of jet V/STOL flying. 1976 was a year of UK 'demos. and famils.' but in 1977 'VTOL was flying from HMS Hermes on Harrier CA Release trials and helping celebrate the launching of HMS Invincible, the Sea Harrier's future home, over Barrow-in-Furness, and demonstrating from HMAS Melbourne. In October 'VTOL participated in the ski-jump trials in progress at RAE Bedford with the ramp at 9 degrees; in 1978 the angle was increased through 15 to 17 ½ degrees and in September the first public ski-jump demonstrations were flown at the Farnborough Air Show from a ramp constructed by the Royal Engineers from Fairey Engineering's medium girder bridge components. Needless to say, this was the highlight of the Show. During the Farnborough show period John Farley flew a Chinese test pilot in 'VTOL from Dunsfold. As he and Mr Ma had no common language John devised a method of communication involving Morse code and a very thorough briefing with three translators. In November there were more approach and landing procedure development trials on HMS Hermes now that she was fitted with a 12 ½ degree ski-jump. In 1979 the Bedford ski-jump trials were completed with the ramp set to what seemed an impossibly large exit angle of 20 degrees but the Harrier still flew easily and effortlessly away. The Royal Engineers erected their medium girder bridge ski-jump at Le Bourget for the Paris Air Show in June and 'VTOL stole the show again. The year finished with another trip to HMS Hermes.

1980 was a quiet year with servicing at HSA, Holme-on-Spalding Moor, but 'VTOL did appear at the Farnborough Air Show and was evaluated by the Brazilian Air Force. In 1981-82 'VTOL was flown by Indonesian, Chilean, Japanese and Indian pilots and in 1982-83 a large number of Indian Navy pilots were fully trained flying from Dunsfold, RNAS Yeovilton and HMS Hermes in preparation for that service's receipt of Sea Harriers. Swiss Air Force pilots flew 'VTOL in 1984 and there was much chase flying for various Harrier and Hawk development and production programmes. In 1985 there were trials concerned with the development of test pilot Heinz Frick's 'Skyhook' concept (a stabilised ship-mounted crane for catching hovering Harriers) and a 'photo opportunity' publicity stunt hovering with the British Aerospace privatisation share price painted underneath. As hoped for by the management, photographs were published in all the national daily newspapers gaining wide publicity for the share issue. Pilot training for a Rolls-Royce test pilot, familiarisation flying for an Australian and various chase tasks brought G-VTOL's long and valuable career to a close on 19 February 1986 with 1389 flights and 721 hrs 33 minutes in the log book.

This historic aircraft is now a popular exhibit at Brooklands where an enthusiastic band of volunteers keep her in pristine condition and her systems live.

HEART ATTACK IN THE HOVER

Andy Jones recalls a frightening moment....

This was a very, very brief incident in a Harrier which had just come back to Dunsfold after a period at Boscombe. I was minding my own business just sitting calmly in the hover at the usual sixty feet or so when the engine abruptly cut. And it was extremely abrupt - but before I had time to react the power returned. At a very rough guess the rpm wound down only by perhaps four or five percent. I put the aircraft down quite quickly! The Chief Flight Development Engineer, Fred Sutton, told me that he had been watching and had heard the sudden drop in engine noise. There was quite a lot of debate as to what on earth might have happened but I can't remember if we ever really had an answer. The same thing was reputed to have happened while the aircraft was at Boscombe.

BOOK REVIEWS

Looking for something to read during lock-down your Editor recalled the first non-reference aviation book he ever bought, at the age of thirteen: "The Big Show" by Pierre Closterman, an Armee de l'Air officer serving with the RAF flying Spitfires and Tempests prior to the invasion and during the advance towards the defeat of Germany. I remembered the vivid descriptions of air combat and ground attack through dense flack. On rereading this now classic

book after literally blowing the dust off it, I was not disappointed. It is still widely available; you are guaranteed an illuminating, exciting and moving read.

The Aviation Historian Issue 36 has the recently declassified story of the Swiss 'Hunter 80' update programme by Peter Lewis. Prof Keith Hayward examines the 'Westland Affair' of 1985 and its effect on the subsequent history of the British aerospace industry and there is more about amazing French concepts from the 1930s incorporating rotary wings...but not as we know them.

MEMBERSHIP NEWS

Sadly we record the deaths of Gwen Duke, widow of Neville, and Barry Pegram, our long serving Secretary. We send our sincere condolences to their families and friends.

We welcome new members Rosemary Pegram, Stephen Lloyd and Graham Speed. Leslie Hoskins has resigned.

MEMBERSHIP LIST - July 2021

Subscriptions for 2020 - 2021 (£7) are overdue from those in bold below. Please send cheques payable to The Hawker Association to the Membership Secretary, Diana Dean, Virginia Lodge, Glaziers Lane, Normandy, Surrey GU3 2EA. Thank you. If you have paid by BACS and this information has not yet reached our records; apologies. Long term (2+ years) non-payers have been deleted.

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