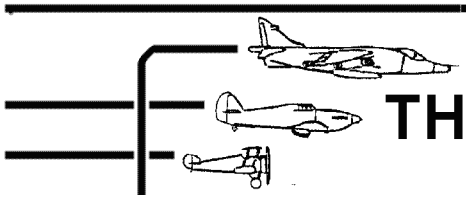

THE HAWKER ASSOCIATION

NEWSLETTER 49 - WINTER 2017 **Published by the Hawker Association**

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EDITORIAL

I hope you enjoy the varied content in this issue with its reports of activities and talks and articles by Members. Talking about the latter, I have now used all those that have been sent to me so please write your 'Hawker' story. It doesn't matter how rough it is, it's my job (and pleasure) to smooth it out. Believe me, your story, although familiar to you of course, will be of great interest to other Members. The Editor still needs your stories. Please send them to: The Editor, Chris Farara, 24 Guildown Road, Guildford, Surrey, GU2 4EN, tel 01483 825955, e-mail cjfarara@ntlworld.com.

All too quickly the Christmas Lunch is coming up. Book with Ken Batstone as shown below

Please note that **sixty five members have not yet paid their subsriptions for 2017 - 2018.** Please do! Look at the back page to see if you have forgotten.

PROGRAMME FOR 2017

Wednesday 8th November	"Life with the Red Arrows" - **Mark Zanker**
Wednesday 13th December	**Christmas lunch**

PROGRAMME FOR 2018

Wednesday 10th January	"Hawker films" taken by **Graham Galton**
Wednesday 14th February	"Airline Flight Safety" - **Chris Roberts**
Wednesday 14th March	"Harrier Ski-Jump Trials from a flight test engineer's viewpoint" - **Dick Poole**
Wednesday 11th April	**Annual General Meeting** and video.
Wednesday 9th May	"Paper Aeroplanes Again" - **Ed Hui**

Mark Zanker had a long and varied RAF career flying Harriers and in the Reds, **Graham Galton** was a systems engineer at Kingston, **Chris Roberts** was Chief Test Pilot at Dunsfold and subsequently an airline Captain and our Chairman, **Dick Poole** was Chief Flight Test Engineer at Dunsfold and **Ed Hui** who returns with more about paper aeroplanes.

Unless stated otherwise, meetings are at the 'YMCA 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. Visitors are welcome.

Christmas Lunch is at 12 for 12.30 on the 13th December, as usual at the YMCA Hawker Centre. The price and menu have yet to be finalised but both are expected to be similar to last year. Please call for details and book with Ken Batstone on 01932 229938 then send him a cheque (made out to The Hawker Association) to 42 Kings Road, Walton on Thames, Surrey KT12 2RA.

P.1127 XP984 APPEAL

The response to the appeal for funds to help with the restoration of XP984 at the Brooklands Museum has raised **£1375** to date. A cheque will passed to the Brooklands Museum when the appeal is closed at the end of the year - **so you still have time!** Let's try to make £1500! The contributors, listed below, are thanked for their generosity:

LR Baker, AC Barber, PG Barker, GM Bass, PA Bedford, AT Boyd, DA Byford. CM Chandler, KFS Chard. T Davies. RJ Fairchild, CJ Farara, for CS Flint, JP Gardner. G Harris, N Hayler. JM Janes, AN Justin. MD Murray. J O'Sullivan, RC Owen. LA Palmer, BV Pegram, LW Phipps, RJ Poole, C Radley, PR Rash. EJ Syradd. AB Turner. GE Weller, G Wilsher, CJ Wilson, GW Wilson.

Please follow the example set by these Members and send your cheques, payable to the Hawker Association, to Chris Farara, 24 Guildown Road, Guildford, Surrey, GU2 4EN.

VISIT TO RNAS YEOVILTON

Frank Rainsborough reports on the 2017 annual outing….

The Hawker Association's outing, this year, was to the Royal Navy Historic Flight's new home in the Navy Wings Heritage Centre, Hangar 15, South Dispersal, RNAS Yeovilton.

The Association's previous visit was in 2012 and the Flight had invited us to 'please come again'. The RNHF has since taken up residence in their new and much larger hangar which accommodates not only their two Swordfish, two Sea Furies and humble but much used Chipmunk, but also three additional naval aircraft, Sea Harriers ZH800 and ZH801 and Phantom F-4K XV586. The unfortunately seriously damaged Sea Vixen XP924 remains there whilst decisions are made about its future.

The day started by assembling the 21 Hawker Association members and friends in the Fleet Air Arm Museum café, and by the 1215 target everybody had been registered and been given a 'goody-bag' that was later to have items added by the RNHF. At 1230 the Flight's Display Manager and event host, Katie Campbell, arrived and led the our convoy through the security gate, around the perimeter road and into the Navy Wings office block where a short briefing was given.

The group was welcomed by Commodore Jock Alexander OBE MA FRAeS, recently retired from the Navy as Commanding Officer RNAS Yeovilton and now the Chief Executive Fly Navy Heritage Trust. Jock gave a summary of his 39 year career in the Navy and then introduced Lt Cdr Chris Gotke AFC RN, Commanding Officer of the Royal Navy Historic Flight. He told us about his flying career which covered many types that were of interest to the audience, but particularly so the Sea Harrier. He named some of the pilots who would be joining the Flight as display pilots and explained that the T20 2-seat Sea Fury was getting back into its flying display routines and answered questions on various topics.

Our group was then split into two, half were guided by Navy Wings supporter Mike Elliott, the other half by Katie Campbell, both guides showing their knowledge and passion for the aircraft under their care. We had unrestricted access to the RNHF aircraft and were free to take photos. Time passed all too quickly until the call came for tea and biscuits, and merchandise sales, in the Briefing Room.

To conclude the day Barry Pegram thanked Katie, commenting that, yes, we'd seen senior naval ranks that day but it was clear who was really in charge! Barry added that the £10 fees that attendees had paid would be donated to the Fly Navy Heritage Trust. Finally, a vote of thanks was given to Frank Rainsborough who, with Katie, had organised the event.

And so the day ended with everybody happy and holding a bagful of interesting items, one of which was an invitation to become a Navy Wings Supporter.

THE GREAT RICHMOND ROAD FACTORY EXHIBITION - 9th & 10th SEPTEMBER

Joint Project Leader, Kingston Aviation Centenary Project, David Hassard, writes…

A huge thank you to all our volunteers and all those who were able to turn up and enjoy the exhibition at the YMCA Hawker Centre in Kingston upon Thames. The YMCA's generous help in letting us use the restaurant area of what was the Hawker Aircraft Athletic and Social Club added a special Heritage Open Day element to the event and the 1928 Trojan car built in the factory made a unique outside exhibit on the Saturday.

This exhibition was a special effort to recognise that it is 100 years since the order was placed to build National Aircraft Factory No.2 on this site and 25 years since it closed in 1992. In just twelve hours, six hours each day, the welcome desk recorded an amazing 871 visitors, including 125 children, through the doors. At times we had to hold back the queue to stop the room getting overcrowded. With unrecorded visitors who jumped the queues total numbers must have been over 900.

The exhibition included our ever popular twenty panel portable exhibition of the entire history of the aviation industry in Kingston and the associated sites at Brooklands, Langley and Dunsfold. The new element was 20 panels with some 200 photographs never before brought together, exposing a comprehensive history of the Richmond Road Factory, its people and its products from 1917 to 1992, including aerial photographs and maps.

The presence of Hawker Association Committee members, including Frank Rainsborough, Barry Pegram and Chris Farara and many member volunteers including Chris Roberts, Colin Wilson, Kieron Kirk, Mike French, Graham Weller and Richard Cannon, ensured that ex-employees had a special welcome and the room was buzzing with reminiscences and stories as old colleagues got together. A number of new members were recruited and valuable contacts were made.

Joint Project Leader Bill Downey, as the curator of our 'Hawker people' digital photo archive and website, was busy constantly surrounded by people wanting to find images and bringing along their own photos to be scanned.

Mike Frain's initiative in devising guided tours of the housing development on the factory site, to show residents and others what once happened where they now live, was a great success. With help from the Kingston Tour Guides, extra tours were added to cope with demand. The specially prepared new overlay of the factory plan on the current 360 home housing development was really popular.

Editors note. The Kingston Aviation Centenary Project leaders and Steering Group members are to be congratulated on an outstanding event, the result of much hard work since the beginning of the year. It was worth it as the exhibition attracted more visitors than all the other Heritage Open Day sites in the Kingston area added together!

PERMANENT PUBLIC REMINDERS OF KINGSTON'S AVIATION HERITAGE

Joint Project Leader, Kingston Aviation Centenary Project, David Hassard, writes…

On 20th October there were some more additions to the public displays of Kingston's aviation history when a 1/8th scale solid mahogany model of a Harrier GR7 and two wall panels were revealed at the opening of an extension to the public library in Tudor Drive, just a few hundred yards from the Richmond Road factory site. The Kingston Aviation Centenary Project provided the drawings for the model Harrier II as well as information and photographs for these wall panels designed by the Kingston Borough Heritage Team.

The Kingston Aviation Heritage Trust has previously donated bronze busts of Sir Thomas Sopwith and Sir Sydney Camm, sculpted by Ambrose Barber, which stand either side of the entrance to Kingston Museum from Kingston Library, and a bronze panel, also by Ambrose, in the YMCA Hawker Centre. There are information panels at both the Canbury Park Road and Richmond Road factory sites and a lectern by the Thames slipway where Sopwith floatplanes were tested.

AIRCRAFT NEWS

Sea Harrier FA2s XZ459, ZD580 and ZE 691 have all been restored and sold by Jet Art. ZD580 has gone to Canada.
Harrier GRMk3 XZ130 is for sale at Jet Art for $400,000. It is restored to museum standard and is in ground running condition. You've missed **XZ132** which has been sold.
Harrier TMk2 XW269 has also been restored and sold by Jet Art.
Hurricane I P2902/G-ROBT flew from Hawker Restorations' airfield at Elmsett near Wattisham in June.
Sea Fury T20 VX281/G-RNHF flew again in September from North Weald after repairs required following an undercarriage collapse during an emergency landing at Culdrose in July 2014.
Hunter T8 WV396 is to be refurbished at the Anglesea Museum of Transport after being displayed on a pole at RAF Valley for 20 years.
Reid and Sigrist Desford VZ727/G-AGOS has been restored to flight condition for Windmill Aviation at Spanhoe. Company co-founder Fred Sigrist was Tom Sopwith's marine engineer and production manager.

48 YEARS IN A ROTARY DRIER

On 12th July Lt Cdr Nicholas Kidd spoke to the Association about his career in aviation which started with an RAF flying scholarship for thirty hours flying. He completed the course plus five hours for a private pilot's licence flying Cessna 150s. A 45 minute flight in a Naval Wasp helicopter at low level around the Solway Firth prompted him to leave school and join the Royal Navy and Fleet Air Arm. Whilst at Dartmouth College he trained on Chipmunks at Church Fenton and Hiller helicopters at Culdrose followed by advanced and operational training on the Wessex.

From 1970 to 1990 he was a Naval helicopter pilot flying commando operations, search and rescue, small ships flights, instrument examiner, naval standards flight, test pilot and test pilot instructor. He flew the Wessex from ships around the world, including Belize, sometimes armed with rockets, SS12 anti-tank missiles or Mk44 torpedoes. He was based at RNAS Culdrose flying Whirlwind 9s on search and rescue; RNAS Portland on Wasps as instructor, and flight commander on various frigates; RNAS Yeovilton on Wessex 5s and on HMS Bulwark, Albion, Intrepid and Fearless. The Wasps were armed with Mk44 torpedoes, depth charges, AS12 air to ship missiles and sometimes with a 600 lb nuclear depth charge for attacking Soviet nuclear submarines which the torpedoes couldn't reach.

During the Falklands war he was senior pilot of a commando squadron flying six Wessex and two Chinook helicopters on board SS Atlantic Conveyor. They picked up 12 Harriers from Ascension which were flown off in the South Atlantic and then the helicopters started operations. On 25th May Atlantic Conveyer was attacked by Super Etendards which released two Exocet missiles at 25 miles range and the ship was hit just above the water line. After four hours Nic and the rest of the crew abandoned ship.

In 1984 Nic graduated from the Empire Test Pilot School, Boscombe Down, where, amongst other aircraft he flew the Edgeley Optica, which stalled at 35 kn, and the Airship 500 whose long cable runs made the controls heavy. Also he was sent to the US Navy Test Centre at Patuxent River, Maryland to do his ETPS Preview evaluation on the twin rotor CH-46 helicopter notable for high vibration and noise levels.

Nic then spent more than two years with the Experimental Flying Squadron at RAE Farnborough flying the Puma, Lynx, Wessex, Sea King and Gazelle testing electro-optics, helmet mounted displays, laser weapons, situational awareness systems, 'hele-tele ball' mounted low-light TV, infra red cameras and line scanners, night vision goggles-compatible cockpit lighting, Lynx flight control laws and, in collaboration with NASA Ames, helmet mounted displays exploring low level flight using different aids.

His last job in the Royal Navy was as Senior Naval Tutor at the US Navy Test Pilot School, Patuxent River. There he flew a large range of aircraft including the Bell Cobra with the teetering rotor system. However at less than 1g flight there is the possibility that the rotor can collide with the airframe and depart so it was replaced with the HH65 Dauphin. Other rotary wing types flown were the CH-46 again, the very manoeuvrable Black Hawk with a stabilator which was self programming with air speed, the Jet Ranger for water landings where height judgement was difficult requiring a radar altimeter, the Kaman Husky with intermeshing, contra rotating twin rotors, so no tail rotor, giving high performance, the very agile Bolkow 105, the Apache using a monocular helmet mounted display, the huge Sikorski Skycrane, the Kaman Seasprite and Alouette 3, the

CH-53 minesweeping at 40 kn, the MD500 Cayuse, the Bell 222 and the V-22 Osprey simulator. Col Harry Blott of AV-8A VIFFing fame, after whom the power lever called the Blottle was named, was the project manager. Fixed wing types included the F-18 and T-38 which tutors could use at weekends, for example to fly to Colorado for skiing, the T-2 Buckeye, King Air, Bolkow 105, P-51, Pitts Special which flew at minus 5 g in an outside loop, the Sea Fury T20, Harvard and Alphajet which was used for inverted spinning demonstrations.

After the Pax River posting Nic retired from the Royal Navy as a Lt Cdr having belonged to 12 squadrons, operated from nine ships and completed operational tours in Northern Ireland and the Falklands. From 1990-99 he was chief pilot and chief test pilot for McAlpine Helicopters at Hayes and Oxford, developing Aerospatiale Squirrels and, later, MBB EC 135s and Dauphins and other types variously for police, ambulance and fire brigade operations with special systems and equipment, as well as VIP aircraft, and for TV and filming tasks. Nic also did charter operations, introduced four new helicopters to the UK market and converted 250 pilots on to seven different helicopter types.

In October, 1999, having flown more than 100 different types of rotary and fixed wing aircraft, he was invited to join the Queen's Helicopter Flight employed directly by Buckingham Palace as the Flight's Chief Training Captain. Some 10 years ago the royal household purchased a Sikorsky S76C+ helicopter to replace the Wessex helicopters operated for them by the RAF. The civil S76s are solely for use by the royal family. The flight of two aircraft is manned by five pilots, four site managers and an operations officer, and tasked by the Royal Travel Office at Buckingham Palace.

After 40 years flying 140 types, clocking up 10,600 hours on helicopters and nine years of royal flying involving 1,760 royal flights, Nic was invested by the Queen as Commander of the Royal Victorian Order for services to the Queen's Helicopter Flight.

Nic, as well as holding an Air Line Transport Pilots Licence, and being a senior examiner for the CAA, a type rating instructor and examiner, an instrument rating examiner, a flight test instructor and a Category A test pilot, now runs his own company providing flight instruction and examining, test flying, consulting and safety management.

In his introduction, our Chairman, Chris Roberts, noted that Nic was a keen windsurfer and that that activity had led to this talk through his windsurfing friend, Colin Flint, who, sadly has died from cancer.

The vote of thanks was given by the editor who thanked Nic for an absorbing and brilliantly illustrated talk which had opened the audience's eyes to the world of helicopters. He remarked the Ray Searle and himself had flown in a CH-46 from Beaufort SC to the USS Guam and could confirm that the CH-46 was indeed horrendously noisy with high vibration levels!

DRONES - THE END OF MANNED AVIATION ?

Our old Kingston colleague, Lambert Dopping Hepenstal, FREng, addressed the Association on October 11th on the topic of unmanned aircraft. Chairman Chris Roberts introduced the speaker saying that after gaining a degree in electronics and electrical engineering at the University of Surrey in 1972 Lambert joined the Avionics Department at HSA Kingston working on the Hawk and Harrier GR5. In 1985, together with John Farrow and Mick Mansell, Lambert was moved to Warton where he managed the systems Development of the Tornado and Typhoon, ran the BAe Military Aircraft research programme and was involved in the development of the Joint Strike Fighter. He was appointed BAE Systems Corporate Technology Director, Engineering Director for military aviation, programme director for the ASTREA (Autonomous Systems Technology Related Evaluation and Assessment) unmanned air vehicle programme and in 2013 retired as BAE Systems Engineering Director, Systems and Strategy.

Lambert said that the UK pioneered the field of pilotless aircraft with the Tiger Moth-derived DH Queen Bee of 1935. Some 380 of these anti-aircraft target machines were built. In 1952 the UK and Australia collaborated on the long serving jet propelled Jindivik air-to-air target.

Terminology has varied. The CAA (Civil Aviation Authority) used 'unmanned aircraft systems', the MoD (Ministry of Defence) used 'remotely piloted aircraft systems', and the popular press used 'drones'. Industry didn't like that but it was adopted by the IATA and is now in general use.

Military drones have been around for 10 - 15 years and now range in size from the Army's tiny 10 x 2.5 cm Black Hornet miniature helicopter and 6m wingspan Watchkeeper to the 20m wingspan RAF Reaper. Military drones operate in segregated air space free of any civil population or in war zones. Operating civil drones presents a bigger challenge as they must operate in all air space. Originally envisaged as unmanned aircraft the development of small inexpensive drones, resulting from the rapid advances in battery and motor technology and miniaturised sensors and computers, was not anticipated. These small drones, typically weighing 4 - 5 kg, have proliferated there being some 1 million operating the US today with 5 million predicted for 2021. This disruptive technology has been a game changer in aviation. In the UK they started out being used for TV and film work but now have a large number of surveillance applications including those by estate agents and construction companies, as well as recreational use by the general public.

What is the attraction of drones? Removing the pilot from the aircraft means he can't be killed or injured in a crash, endurance is increased as it is not limited by life support systems caoacity, flexibility of design as there are no shape constraints due to a pilot, and his systems do not have to be housed so, for instance, better aerodynamics can be achieved through increased slenderness. Drones can operate in environments which would be dangerous for a pilot such as fire fighting, nuclear accident investigation, oil refinery flare stack inspection, volcano and ash cloud investigation, maritime search missions in any weather conditions, long term search thanks to long endurance, very high altitude pseudo-satellite tasks, and

crop spraying which is a high risk occupation for the pilot. Air-to-air refuelling of airliners by drone is being considered as this would allow the airliner to take off at low weight thus reducing air pollution. Parcel delivery is under study by Amazon as is aircraft external inspection, eliminating the need for staging, by easyJet. Agricultural crop surveys allow accurate fertiliser application. In fact new uses are being proposed all the time.

Some degree of autonomy is needed but this brings challenges of safety, ethics, regulation, insurance, legal responsibility and public perception, the latter being coloured by the 'killer drone' phrase used by tabloid newspapers. In other fields autonomy has been accepted. The Docklands Light Railway has been operating driverless for 30 years, and in modern 'tube' trains the driver only operates the doors. Rolls-Royce is proposing autonomous maritime freighters and driverless cars are a Press obsession. The speaker's opinion was that these are "a long way off" because of the numerous difficulties; in comparison autonomous aircraft are "a doddle"!

Autonomous aircraft must integrate with manned aircraft; they can't be segregated so they must appear to ATC (Air Traffic Control) to be like manned aircraft (transparency) so must follow the same rules (equivalence).They must be no less safe than manned vehicles. The public expectation is for driverless cars to be 100% safe even though driven cars are not. Ultimately the driverless car will be safer than the driven one. The same expectation will apply in the air; the first crash will get a huge reaction.

The basics requirements of autonomy are: to sense the environment, to calculate around that so decisions can be made and then actuate steering and speed control. Connection to the infrastructure via a secure communications system is essential. Decision making must be autonomous without the 'pilot' on board. There will be propulsion and electrical issues and new sensors will be needed. Very good guidance, navigation, collision avoidance and air traffic management are needed.

Legislation and policy changes will be needed to cater for safety, certification and qualifications of the 'pilot' supervisor on the ground. Communications radio frequencies are allocated to users every four years by the World Radio Conference. There is no spare space in the spectrum so frequencies will have to be bought from existing users.

All current regulations are framed round pilots who can see, hear, smell and feel - and he is not there; so new regulations are needed. The UK was at the leading edge in this field when in 2001 the CAA produced document giving guidance for the regulation of unmanned aircraft which has been adopted in principle world-wide and the IATA (International Air Transport Association), FAA (Federal Aviation Agency) and the ICAO (International Civil Aviation Authority) all have working groups. The ICAO provides the international view which is passed on to regions and in Europe this is the IATA who then pass their view to the nations, the CAA in the UK case. This applies only to state bodies such as the police and military and only for drones of 150 kg or less.

The IATA envisage three categories: open (low risk) with a minimum set of operational rules enforced by the police; specific operation (medium risk) authorised by the national aviation authority; and certified (higher risk), comparable to manned aviation, licensed by the national aviation authority who will approve maintenance, operations and air traffic management.

Having covered the philosophy of drones Lambert then described the ASTREA programme which started in 2006, before the explosion of small drone numbers so was aimed at reasonably large aircraft. The programme, which Lambert managed, was a £10m industry and government funded joint industry (including BAE Systems, EADS, QinetiQ, Rolls-Royce, Thales, Cobham) and university (including Cranfield, Loughborough, Aberystwyth) programme. The objective was to examine the whole unmanned autonomous operational concept and utilised synthetic environments, simulation, rigs and a flying test bed with two safety pilots on board which flew several missions in UK air space without any human intervention. The aircraft used was Jetstream 31 G-BWWW, Dunsfold's old communications aircraft, modified to fly as an unmanned aerial vehicle.

BAE Systems' experience in military drones started simply in 2000 with the Soarer hand-launched glider which was the first flight test of autonomous controls. Then, with Cranfield, came the Kestrel, and in the 2004 the modular jet powered Raven or Corax of 19 ft span. The HERTi in several versions based on a Polish sports glider fitted initially with a BMW motor cycle engine but later replaced with a Rotax light aircraft piston engine, was flown in Australia as the CAA would not allow it to fly in the UK. The large Mantis UCAV (unmanned combat air vehicle) twin R-R Model 250 turboprop powered aircraft, larger than a Jetstream, also flew in Australia. The Taranis of 2012, an Adour powered Hawk sized UCAV, has demonstrated fully autonomous operation from taxi through take-off, flight, and landing to parking. The Ampersand was an autonomous autogiro based on the RotorSport UK MT-03, and the Demon of 2010 had Coanda effect controls.

Finally, looking to the future Lambert saw "millions" of small drones doing multitudes of aerial tasks; autonomous technology allowing single pilot airline operations saving billions annually; light freight, postal and re-supply services; long haul freight using airship platforms; city air taxis and flying cars. The latter have been unsuccessful in piloted form because of the ungainliness of carrying wings on the ground and running gear in the air. The Airbus Pop-Up project addresses this by adopting autonomous air and land modules which are brought together only when needed. In the military arena Lambert predicted more combat drones including the current Anglo-French BAES-Dassault feasibility study, heavy lift airships, air-to-air refuelling, pseudo satellites and hypersonic drones.

The vote of thanks for this outstanding talk was given by Martin Pennell.

KINGSTON - A KEY PLAYER IN THE HISTORY OF THE BRITISH AIRCRAFT INDUSTRY

Bill King tells us about important but less well known activities at Richmond Road…

For a quarter of a century, between 1959 and 1984, the main administration block at Richmond Road performed a key role in the design, development and manufacture of military and civil aircraft spread nationwide. Kingston became the Head Office for Hawker Siddeley Aviation (1959-1977) with the top management team and the support staffs resident on site. The HSA Directors were responsible for the aircraft activities on the following sites replacing the old aircraft companies:-

Kingston and Dunsfold (Hawker) - Hunter, Harrier, Hawk
Hamble (Folland) - Gnat and subcontract
Bitteswell (Armstrong Whitworth) - repair and overhaul
Manchester (Avro) - Vulcan, Shackleton, HS 748, Andover, Nimrod, Victor Tanker, ATP
Brough (Blackburn) - Buccaneer, Phantom (sister design authority)
Hatfield and Chester (de Havilland) - Comet, Trident, HS 125, HS 146, Airbus.

Following nationalisation in 1977 and on the formation of BAe it was decided that the Headquarters of the Aircraft Group would be in the offices in Richmond Road and new sites came into the fold: -

Prestwick (Scottish Aviation) - Jetstream 31
Weybridge and Filton (BAC Civil Aircraft Division) - BAC 111, Concorde, VC 10 Tanker
Warton (BAC Military Aircraft Division) - Canberra, Strike Master, Tornado, Jaguar, Typhoon

Many of new senior directors at Aircraft Group would come from the BAC Military Aircraft Division. However Warton, where the bulk of the Aircraft Group's turnover was concentrated, always operated with a wide degree of autonomy. With the privatisation of BAe in 1983 the new company board decided to dissolve the old group structure and concentrate power in a new BAe headquarters building in the Strand. By 1984 the old group headquarters offices became empty and were demolished in 1990 with the rest of the Kingston site.

Over its 25 years of existence as a headquarters the Kingston site provided office accommodation for some of the most famous names in the country's aviation history including Tommy Sopwith, Roy Dobson, John Lidbury, Sidney Camm, Bob Lickley, Freddie Page, Colin Chandler, Ivan Yates, Eric Rubython, John Stamper, Bill Bedford, 'Birdie' Wilson, Harry Broadhurst and Peter Fletcher. Each Director had his own small team of experts to advise on critical matters and help develop and oversee company policies and procedures. Central services like legal, intellectual property, IT, publicity and government contracting were all based at Kingston and over the years there were growing numbers of accountants and sales and marketing professional, plus a central team of engineering, manufacturing and design specialists. Always kept small in number, headquarters staff provided multifunction expert teams at a time when the British aircraft industry was at its most turbulent, but still producing aircraft in significant numbers.

MORE MEMORIES OF ALGERIA

Barry Kensett also remembers his visits to Algeria….

In the Hawker Association Newsletter I was amused to read the experiences of Keith Hobbs and in particular of our time in Algeria. I only remarked to Peter Ginger recently that if ever I wrote a book on my time in the industry, Algeria would have one of the biggest chapters, it was so bizarre.

I was of course an aircraft itinerant, starting at Hatfield on Comets and Tridents and having been the engine man on the latter I was "encouraged" to Brough to stuff the Spey up the bottom of the Buccaneer and later followed the engine into the Phantom. I was sent back to Hatfield for Airbus but then for many years to Kingston on Hawk, AV-8C (not many know of that) and AV-8B.

I was despatched to the Foz (John Fozard, then Marketing Director) to help with the Hawk marketing push in Algeria and pulled together a bunch of rogues from all over the industry with particular skills including the equipment manufacturers Keith mentioned, along with expertise from Bristol and Woodford to advise on the transport aircraft. The customer objective was a full aircraft industry capability, ours was to sell Hawk. The full story would need a book but I can add a few more experiences to Keith's.

The El Aurassi hotel where we were billeted was built by the Egyptians and was intended to be much higher but it started to lean so was capped off at ten floors. There was a water shortage in Algiers and you only got water in your room at certain times of the day; we collected it in the waste bin so that we could flush the toilets in 'off' periods but then the chambermaids would empty it and we had to collect more from colleagues on another floor who were in an 'on' period. It was sad to pass all the children at the gates with bottles pleading with us to give them water.

The competitive sport was to leap into the bathroom with the light off to see how many cockroaches you could hit. The room phone was in the bathroom which seemed a little odd but then you could at times spend more time sitting in there than anywhere else. The staple diet, as Keith mentioned, was apricots - and I still avoid them.

We had daily meetings at Maison Blanche where there were primitive production facilities and we had to try to assess the capabilities. When we walked in for the morning sessions everything was swinging but as days wore on you noticed that there was activity but no output, the 'in' and 'out' piles of bits never changed and there were clearly work simulations every time we walked through. If we wanted to see another part of the factory we had to wait while the "workforce" was moved there.

With Rolls-Royce we talked about engine support facilities and asked to see the test bed the Algerians said they had. This was out in the desert and we were given a large coach for six of us to go to see this. On the dirt roads the coach filled with dust and we had to move to the front to see anything. The driver clearly did not know his way and stopped at villages to make enquiries after which we turned up at what looked like a Foreign Legion fort. The "caretaker" obviously didn't know we were coming as he staggered out wide-eyed and pulling his trousers on. We had a tour and were invited to witness an engine run on a Neneski from a MiG 15. We assumed that this would be called off at the last minute, but no, the engine started to whine, there was fuel everywhere, the intake was open in the cell and the tailpipe was a poor match with the chimney which was full of birds. The Rolls-Royce guys were through the exit ahead of me! They later showed us the test results which showed that every measurement was bang in the middle of the tolerances. We also noticed that even with the engine stopped the rotameters for fuel flow measurement were stuck half way up the tubes.

On another occasion we were taken to see their jig borer. This was a pre-war machine lovingly cared for by a pre-war machinist whose sole job was to keep the machine highly polished. There was no sign that it had ever been used. One of our team was Dick Chandler, an ex-test pilot who flew fighters in North Africa during the war. He had a few words with machinist who flung his arms round Dick's neck tearfully wailing "The British are back!"

Keith spoke about the formal lunch at the airbase, I guess he was not the first through the door to see the rising cloud of flies lifting off like Harriers from the sheep in the middle of the table. As party leader I had to pull the tongue out. I think the plate of white stuff was cheese but not sure from which animal.

These are just a few of the stories; for more you will have to wait for the book, but that could be a very long time!

Looking back Algeria was a life enhancing experience. We produced a proposal which went right back through the country's education system to generate the manpower for a factory which was to repair and overhaul a mixed fleet of civil and military, eastern and western aircraft and a factory to progressively build up a capability to manufacture Hawk. It would have been a thirty year project and would have paralleled a similar ambition in Brazil which was successful. Unfortunately the gas revenues which were to fund the project were diverted to other national social programmes and we didn't get to the chance to deliver the project. The whole team was magnificent and we should be proud of what was achieved. Now where did I put that report ….?

SOPWITH PILOT SAVED BY HOMING PIGEON

A Sopwith Baby pilot and his would-be rescuer are saved thanks to a homing pigeon….

On 16th November 1916 Fl Sub Lt Graham in "Baby" 8138 is forced down onto the sea by engine trouble. A float springs a leak landing in heavy waves and the aircraft turns upside down. Graham releases his nearly drowned homing pigeon but it does not reach the loft. Over four hours later a searching Short floatplane spots the pilot on an upturned float and lands making many unsuccessful attempts to collect him until he goes out of sight in the broken water. Taking off again the Short finds him and lands close enough to pick him up utterly exhausted but could not then take off with the extra weight. The Short pilot sends his pigeon with the message "12 miles NE Nieuport taxying NW". The pigeon arrives in Dunkirk an hour later and a French torpedo boat is sent out to locate them and bring them back.

Editor's note. The above was taken from David Hassard's weekly newsletter "The Kingston Aviation Story - 100 years Ago This Week". For more fascinating stories go to www.kingstonaviation.org.

SOPWITH STRUTTER RAID

A French pilot makes an impressive raid deep into Germany…

On 17th November 1916 in a spectacular long distance raid Capitaine Louis Robert de Beauchamp of the 4me Groupe de Bombardement takes off from Luxeuil at 8am "dressed like an Eskimo" in his specially prepared camouflaged 'Strutter' Ariel and flies 350kms to spiral down and drop bombs on Munich railway station at midday before flying at 12,000ft across the Brenner Pass and over the Dolomites to Venice but cannot find the French airbase there. Short of fuel after a 6 hour 45 minute flight of more than 650kms, he lands in a field but hits a hole and breaks the undercarriage slithering to a halt in the mud. His feat is widely celebrated, makes the headlines in newspapers and causes dismay in Germany.

Editor's note. The above was taken from David Hassard's weekly newsletter "The Kingston Aviation Story - 100 years Ago This Week". For more fascinating stories go to www.kingstonaviation.org

MEMBERSHIP NEWS

We welcome new members Dominic Brice, Bill Bryce, Graham Dunn, Gordon Dunne, Peter Frost, Howard Hancock, Anthony Mabelis, Helen Steinlechner, Michael Weatherly, Kevin Wilkins, Richard Wood.

Sadly we record the deaths of Keith Chapman, David Ince, Glynne Parker, Nick Morland and Chris Rostant. Our sympathy and condolences go to their family and friends.

MEMBERSHIP LIST - October 2018

Sixty five Members have not yet paid their 2017 - 2018 subscriptions. Their names are in bold below. Please send cheques payable to The Hawker Association to Barry Pegram**,** 12 Becket Wood, Newdigate, Surrey, RH5 5AQ. If you are **leaving** please let him know by post or by telephone on 01306 631125. Thank you.

A: Allan Abbott, Ken Alexander, Peter Alexander, John Allen, Peter Amos, Terry Anstey, Steve Apted, **John Arthur**, Alan Auld. **B:** Brenda Bainbridge**,** LynBaker, **Colin Balchin**, Ambrose Barber, Derek Barden, Peter Barker, Graham Bass, Donald Bateman, Richard Bateman, Ken Batstone, Dennis Baxter, Colin Bedford, Peter Bedford, Anne Beer, Brian Bickers, John Blackmore, **Andy Bloomfield**, **Melvyn Bluck,** Keith Bollands**,** Paul Boon**,** Betty Bore, Pat Bott, Steve Bott, Bob Bounden, Mike Bowery, Alan Boyd, Sally Bracher**, Roy Braybrook**, Bill Brice, Dominic Brice, Laurie Bridges, **Doug Britton,** Arthur Brocklehurst, Peter Brown, Christopher Budgen, Reg Burrell**,** Robin Burton, Clive Bushrod, **Barry Butcher**, Tony Buttler, Dave Byford. **C:** Richard Cannon, Reg Carden, **Chris Carter**, Tom Casey, Bob Catterson, Colin Chandler, Keith Chard, John Chitty, Martin Churms, Gerry Clapp, JF Clarke, John Cockerill, Hank Cole, David Collingridge, Nigel Cook, Brian Coombes, Jonathan Cooper, Patricia Cosgrove, Ron Cosgrove, David Cotton, Nick Cox , Mike Craddock, Shirley Craig, Richard Cripps**, Russ Culley,** Richard Curling**,** Richard Curtis. **D:** Clive Dalley**,** Andy Dalton, John Danse, Afandi Darlington, John Davie, Jo Davies, Trevor Davies, Michael Davis, **Diana Dean, Ralph Denning**, Norman Deviell, Wilfred Dimsdale, Mike Diprose, **Colin Dodds**, **John Donaldson**, Lambert Dopping-Heppenstal, Cliff Douthwaite**, Bill Downey,** Barry Dreghorth, **Brian Drew**, **Mike Drew,** Gwen Duke, Graham Dunn, Gordon Dunne, Chris Dunhill, Mike Dyke. **E:** John Eacott, Andy Edwards, Dave Edwards, **Barry Elliot**, **Stephen Elliott**, Tony Elliott, **Roy Elms,** Celia Evans, Norman Evans, **Roy Evans**. **F:** Russ Fairchild**,** Ian Falconer, Mike Fantham, Chris Farara, John Farley, John Farrow, **Max Fendt,** Ian Ferguson, Stan Field, Geoff Fieldus, **Mike Finlay,** Wilf Firth, Richard Fletcher, Moira Flint, Ted Forster, **Mike Frain,** Steve Franklin, Howard Freeman, Geoff French, Mike French, Heinz Frick, Peter Frost. **G:** Roy Gaff, David Gaitley, Daphne Gaitley, Mike Gane, John Gardner, Patricia Gardonio, Peter Gates**,** Sandie Gear, Tim Gedge, Mark Gerrard, Tony Gibbs, John Gilbert, John Glasscock, Pat Goodheart, **John Gough**, Andy Green, Ray Grout. **H:** Violet Hall, Margaret Hamilton, Howard Hancock, Valerie Hanscomb, Liz Hargreaves, **Simon Hargreaves**, Bryan Harman, Guy Harris, Thelma Harris, Brian Harvie, David Hassard**,** Juliet Hassard, David Hastie, Norman Hayler, Bob Head, Alan Heasman**,** Sheila Hemsley, Ted Henbery, Jock Heron, **Keith Hertzenberg,** Frederick Hewitt, Merlin Hibbs, Richard Hickey, Peter Hickman**,** Dennis Hills, Reg Hippolite, Keith Hobbs, Chris Hodson, Michael Hogan, **Derek Holden**, Ralph Hooper**,** Linda Hopkins**,** Lesley Hoskins, Diane Howells**,** Terry Howes, Simon Howison, **Miles Huckle, Ed Hui,** Gavin Hukin. **I:** Len Illston, **Maive Impey**, Brian Indge. **J: Keith Jackman**, **Barry Jackson, Gerry Jackson**, Simon Jackson, Graham James, John Janes, Mick Jeffries, **Mark Jennings,** John Johnson, Andy Jones, Ian Jordan, Robin Jowit, Alf Justin. **K**: Andrew Keech, Barry Kensett, **Dennis Ketcher,** Bill King, Dave King, Kieran Kirk. **L:** Mike Laker, Rich Lambert, Richard Lane, **George Latham, Paul Latham**, **Andrew Lawson, Stanley Lawson**, David Lee, **Geoff Lee,** Mark Lewis, Vernon Lidstone, **Gary Lillistone**, Andrew Lloyd, Dawn Lloyd**,** Norman Long, Terry Long, David Lovell, Lynda Lucas. **M:** Anthony Mabelis, Albert Magee, Al Mahoon, Mick Mansell, John Marsh**,** Ann Martin, Brian Maton, John McCarthy, **Don McGovern,** June McKeon, **Keith McMahon,** Mike Mendoza, Alan Merriman, Jim Middleton, Robert Millar, Alan Millican, **Jack Mills, Peter Mitchell,** Brian Monk**,** Pat Moon, Pauline Moore, Pete Munday, Carole Murphy, Martin Murray, Helga Mutton, **N:** Tony New, Terry Newell, Anthea Newman, Jennifer Nicholas, Chris Nicholson, **O:** Roger O'Brien-Hill**,** Chris Oliver, John O'Sullivan**,** Robin Owen**. 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V: Roland Van Haeften. W:** Terry Walker, **David Ward**, Dave Weatherley, Michael Weatherley, Harry Webb, Graham Weller, Judith Westrop**, Jan White**, **Mick White,** Roy Whitehead, Peter Whitney, David Whittam, Kevin Wilkins, Annette Williams, Don Williams, John S Williams, Sally Williams, Rosemary Wills, Geoff Wilshire, Colin Wilson, George Wilson**,** Dick Wise, **Helen Woan**, Kuo Wong**,** George Woods, Richard Wood, **Alan Woolley. Z: David Zanker**