



THE HAWKER ASSOCIATION

NEWSLETTER 56 - Spring 2020

Published by the Hawker Association
www.hawkerassociation.org.uk

EDITORIAL

I wish you a happy and healthy in 2020, the last year of the decade.

Please note that the Association subscription **renewal form** and the AGM calling notice are included with this Newsletter. **PLEASE** write your £7 renewal cheque (and the one for last year as well, if you forgot - see back page) and post it to Barry Pegram as instructed on the form. Come on chaps, it's not a fortune!

Amongst the interesting articles below is a report by our Chairman on the state of the Association and prospects for its future. Your comments would be most welcome.

If you didn't respond to Richard Cannon's plea in NL55 for you to e-mail him at richard@cannonr.me.uk, please do it NOW. This is an urgent requirement to keep Richard's address book up-to-date and so keep you informed.

Contributions to the editor, Chris Farara at <cjfarara@ntlworld.com> please.

PROGRAMME FOR 2020

Wednesday 11th March Managing the closure of Kingston - Mike Frain.
 Wednesday 8th April Annual General Meeting and videos.
 Wednesday 13th May A Calamity and a Triumph - Lorimer Burn

Mike Frain was Works Engineer at Kingston. From 1967 Lorimer Burn flew helicopters in the RN and for British Airways, and B.737s and Airbus 320s as a Captain with British Midland. His talk covers Air France Flight 447 which crashed fatally in the South Atlantic and US Airways Flight 1549 which ended safely in the Hudson River.

HAWKER ASSOCIATION REVIEW

Our Chairman, Chris Robert, writes...

The inaugural meeting of what became the Hawker Association Committee was held on the 21st March 2002 where the fundamentals of the constitution were established. A call for membership interest resulted in an initial 178 members. In the subsequent 17 years the Association has matured and increased the range of activities and interests, with the biggest area of expansion being involvement in heritage projects within the Association, at Brooklands Museum and allied to the Kingston Aviation Centenary Project.

Membership peaked near to 400, followed by a slow reduction to 327. Any organisation that is established primarily for retired people will follow this pattern. Members are spread throughout the country and some are resident outside the UK so access to Kingston for the routine activities is limited. Thus the newsletter is a mainstay of the organisation, and is, perhaps, the glue that holds it together. The committee has been considering what changes, if any, are needed to keep the Association buoyant and moving in the right direction.

After the AGM in 2019 a discussion was initiated to canvass opinions to give the Committee re-assurance that we are achieving our aims and to suggest any changes or adjustments that are necessary or simply would be nice. The Committee then carried out a review of the constitution and our activities, discussing at length what our options are and the practicalities of any changes.

One conundrum tackled was the question whether the Association should change the criteria for membership and the nature of our activities to attract more members with different interests. This concept would have some merit if the aim was to create a society that would outlive the present members. We concluded that we should stick to the existing constitution, aims and criteria; the Association being primarily for ex-employees of the relevant companies. However, this has not and should not be strictly applied. There are some members who reached out to us because they have an interest in what Hawkers was and what it made, and they are very welcome.

Many of the suggestions considered during 2019 are not practicable because we are neither the U3A nor the Royal Aeronautical Society, and operate with a tight budget with volunteer labour for the effort needed to keep aloft. Additionally the number of members able to attend the monthly meetings is a small percentage overall, so any changes must benefit the majority rather than only those close to Kingston.

However, some suggestions have been accepted and the committee is making a few changes to keep the Association up to date and these will filter through in due course; for example this coming year subscriptions may be paid electronically.

It is important that members are confident that Committee members are not just sitting on their hands without considering the future and inevitable changes. The Committee is always keen to have feedback and suggestions; please do not be put off if we are unable to take them forward. Some suggestions are very interesting and exciting but we cannot undertake activities such as publishing books, creating independent archives or organising aviation inspired events.

Our ears are open. It is your Association.

VISIT TO CLAREMONT HOUSE

Chris Farara reports on the visit

A group of Members was invited to visit Claremont House on 31st October following the mounting of an exhibition there during national Heritage day in September when the House was open to the public. The exhibition, prepared by David Hassard and colleagues from the Kingston Aviation Centenary Project, covered the residence at Claremont by Sydney Camm and Hawker's Design Department during World War 2. The house is now the Claremont Fan Court School whose new science and technology building is named after Sir Sydney Camm

The tour of the house was conducted by Pamela Rider, herself a pupil at the school in the 1960s and now the school archivist. We visitors were taken throughout the building starting with an unusual feature, a tunnel used in the past for bringing stores and provisions into the house; in fact a large tradesman's entrance. During the tour we were given a detailed and fascinating history of the house by Pamela.

In 1708 Sir John Vanbrugh, the Restoration playwright and architect, built himself a small house. In 1714 he sold the house to a wealthy Whig politician, the Earl of Clare, who became Duke of Newcastle and served twice as Prime Minister. He commissioned Vanbrugh to add two great wings to the house. The Earl named his country seat Clare-mount, later contracted to Claremont.

When the Duke of Newcastle died in 1768, his widow sold the estate to Robert Clive, founder of the British Indian Empire, who decided to demolish the house and commission "Capability" Brown to build a fashionable Palladian mansion. Brown, more landscape designer than architect, took on his future son-in-law Henry Holland to assist him. John Soane, later Sir John Soane, worked on the interiors which were strongly influenced by work of Robert Adam. Clive, by now very wealthy, is reputed to have spent over £100,000 on rebuilding the house. Sadly he died in 1774, the year that the house was finished.

The estate was sold to a succession of owners until, in 1816, Claremont was bought by the British Nation as a wedding present for George IV's daughter, Princess Charlotte, and her husband, Prince Leopold of Saxe-Coburg. Princess Charlotte, who was second in line to the throne and very popular with the people, died there following two miscarriages, after giving birth to a stillborn son. Leopold retained ownership of Claremont until he died in 1865 after he had left in 1831 to become the first King of the Belgians.

Queen Victoria was frequently at Claremont as a child and later as an adult when her uncle Leopold lent her the house. She, in turn, lent it, after the revolution of 1848, to the exiled French king and queen, Louis-Philippe and Marie-Amelie, the parents-in-law of Leopold. The exiled king died at Claremont in 1850. Victoria bought the house for her fourth and youngest son, Prince Leopold, Duke of Albany, when he married Princess Helena of Waldeck and Pyrmont in 1882. The Duke and Duchess of Albany had two children, Alice and Charles. In 1900, the latter became the Duke of Saxe-Coburg and a German citizen.

During the First World War Claremont was used as a convalescent home for Officers and from 1916 it was let to a girls' school in Leatherhead. Claremont should have passed to the Duke of Albany on his mother's death but because he had served as a German general in the First World War the British government disallowed the inheritance. Claremont was accordingly confiscated and sold by the Public Trustee to shipping magnate Sir William Corry, director of the Cunard Line. Two years after Sir William's death in 1926, it was bought by Eugen Speyer a wealthy German financier.

In 1930 the Mansion stood empty and was marked for demolition when it was bought by the Governors of a south London Christian Science school becoming Claremont School. In 1978 it amalgamated with Fan Court School of Chertsey. In spite of its many owners and occupiers the interior architectural details, ceilings, fireplaces and sculptures are in remarkably good condition.

The visitors were then welcomed by Jane Jenkins to the very impressive, beautifully designed and built Sir Sydney Camm science and technology building. Its modern architectural style, both inside and out, complements perfectly the Grade 1 listed Palladian mansion housing the main school. Almost complete, the classrooms, laboratories and workshops are equipped to a very high standard. Finally, over tea and biscuits, the Association visitors could chat to their guides, Pamela and Jane, thanking them sincerely for a most interesting and fascinating visit.

CHRISTMAS LUNCH

Organiser Ken Batstone (to whom many thanks) reports...

On Wednesday December 11th 2019, the 17th annual Association Christmas Lunch was held as usual in the YMCA Hawker Centre. For those who didn't know, or may have forgotten, this was the old Sports Club for the Hawker Aircraft factory next door. Thirty eight Members and guests attended, which was markedly down on last year, probably due to illness and the sad demise of a number of Members during the year.

Before grace was said by the Rev Vernon Lidstone and the lunch served, there was convivial conversation over a glass (or two) of wine. The traditional Christmas fare provided was of excellent quality and generous quantity, and could not be faulted. The YMCA also generously provided a glass of mulled wine at the start of the meal and further supplies of wine during it! Afterwards there were short speeches by the Chairman, Chris Roberts, and the President, Colin Wilson, the content of which could not possibly give offence to anyone; even twitter officianados. Coffee and mince pies were then enjoyed before the raffle concluded the afternoon.

On behalf of the diners, the Committee expressed sincere thanks to the Hawker Centre staff for providing another excellent meal to the consistently high standard maintained over the years; it is much appreciated.

BILL BEDFORD BLUE PLAQUE AWARD

Chris Roberts reports.....

On Saturday 1st Feb 2020 a gathering outside 'Chequers', the former home of A.W. (Bill) Bedford, watched the Mayor of Elmbridge (Councillor Mary Sheldon) unveil a Blue Plaque to record the fact that the wartime fighter pilot, who became Chief Test Pilot of Hawker Aircraft Ltd at Dunsfold Aerodrome, lived there from 1968 to 1996. Bill is fondly remembered by the many who worked for the company and was well known internationally for his Hunter work before, on 21st October 1960, he flew the prototype V/STOL (vertical/short take-off and landing) P.1127 which led to the Harrier, the world's first in-service jet V/STOL fighter aircraft. The plaque was arranged by the Esher Residents Association to whom Bill was also well known for his community work over many years.

HUNTER T7 XL623 - CHAIRMAN'S PROJECT REPORT

Work is proceeding at two locations, Dunsfold and Brooklands, by the same team dividing their time. The majority of the work is outside and winter conditions make it hard on them all.

Two frames have been salvaged together with some cradles which will form the basis for supports needed for the nose and centre fuselage at Dunsfold so that work can continue to progress there.

Although the tailplane is still at Dunsfold the elevators have been removed and stripped of paint back to primer at Brooklands. The elevator tips were damaged during the aircraft's time at Woking so repair work was needed, starting with separation of the skins to take out the dents. Where the skin has cracked it has to be replaced and the process will be completed when the new parts have been anodised.

The airbrake fairing had a number of dents so it has been removed for the some panel beating and is ready to be re-installed. A patch has been made to cover the area left after removing the arrestor hook from the rear fuselage. During that work the paint on the lower fuselage was found to be blistered quite extensively so the team chose to strip the paint back to the primer on the whole of the rear fuselage. It has taken about a month, a lot of wet and dry paper and plenty of effort, to finish.

Discoveries like these tend to slow progress but the team always knew that this restoration was going to throw up surprises. Rubbing paint off is a much less enjoyable task than pure engineering and the Association is very grateful that our volunteers take on these extra tasks with such good spirit.

A site for XL623 has been identified in Kingston, not too far from the factory on the Richmond Road. Negotiations are underway with the land owner and there is good reason to believe that an acceptable arrangement can be agreed. Work is underway to establish what the underground situation is; the civil engineering requirements must not affect services such as electricity, water and drainage. The original drawings of the Woking installation have been acquired and they will be re-certified to satisfy the latest requirements once we are sure that changes will not be needed for this new location.

We thank all our donors for their continued support and confidence. The project is moving forward surely and steadily. Please send donations to the project bank account : "The Hawker Association - Hunter Project", Sort Code 30-84-46, Account 36893268 using your name as a reference, so we can get back to you.

Paul Rash: Rowallan Lodge, Farnham Lane, Haslemere, Surrey, GU27 1HE
Chris Roberts: 3 Sole Farm Close, Bookham, Leatherhead, Surrey, KT23 3ED

KINGSTON AVIATION CENTENARY PROJECT REVIEW FOR 2019

Joint Project Leaders David Hassard and Bill Downey report...

The demand for talks on Kingston's aviation heritage continued through 2019. Despite never having actively promoted them we gave 29 talks this year with an attendance of 956 including 221 school children. This brings the total over the last eight years to 224 talks to 8,488 people. The most popular talk remains "Bat Boat to Red Arrows" covering the whole history from 1912 to 1992 followed by "Sopwith Aviation and its aircraft through the Great War". "The aviation industry in Surrey in the Great War" also attracts some groups, whilst new talks this year were "Sir Thomas Sopwith" for a group visiting the Brooklands Museum and recently "The Great Atlantic Air Race 1919". Enquiries about bookings for talks can be made via kahp2012@hotmail.co.uk We do not charge for talks but donations from some talks this year have maintained our funds at a level which allows us to continue with the project and keep our website running as a digital archive with worldwide access.

Surprise activities this year have been three unplanned exhibitions. One was in Dorking for the Surrey County Council "Surrey in the Great War Project" and two at Claremont Fan Court School in Esher linked to their new Science and Technology Centre named after Sir Sydney Camm who based his Hawker Aircraft design team in their historic mansion from 1940 to 1945. Thanks to our volunteers we were able to display our Hawker Aircraft Company exhibition panels, photographs and paintings. In addition we had a new Sir Sydney Camm slideshow running on their large TV and displayed new information panels summarising the Hawker aircraft design work at Claremont.

The "100 Years Ago This Week" e-mailed Newsletters have remained our main focus throughout 2019 with 51 issues. The number of subscribers worldwide is more than 600. We plan to continue researching and publishing the historical Newsletters but although there are significant developments for the Sopwith company in 1920 there are probably not enough events and contemporary photographs to support an issue every week. We are hoping to go back and expand the information on the Sopwith School of Flying and Sopwith Aviation Company activities in 1912 and early 1913 which was summarised very briefly in our first newsletter in May 2013.

These historical newsletters are an experiment in tracking down as much information as possible about the company and its products and sharing our findings chronologically 100 years later. We have deliberately resisted adding comments or drawing any retrospective conclusions. However, faced with the exceptional achievements of the Sopwith Aviation Company since 1912 quantified in the last newsletter we are tempted to explore the reasons for such success and have started to list significant contributory factors, some obvious, some less so. This needs much more study and consideration. If you know of existing analyses or studies of the reasons behind Sopwith's unique success or would like to share your own thoughts on this, do please get in touch with David Hassard via dh20tg@gmail.com.

To sign up for the weekly e-mailed Newsletters please go to kingstonaviation.org/sign-up-for-our-newsletter.html.

KESTREL RETURNS TO UK

Dave Cotton has been in contact with Wings Museum who provided the following information...

Wings Museum, based in West Sussex, has acquired Hawker Siddeley Kestrel XS694 from a private collector in Florida, USA. The aircraft first flew on December 10th 1964 from Dunsfold aerodrome and was the first Kestrel delivered to the Tripartite Kestrel Evaluation Squadron at RAF West Raynham, on February 8th 1965. When the squadron was disbanded XS694 was shipped to the USA on the 11th January 1966 and as XV-6A 64-18268* participated in US Tri-Service trials from Eglin AFB. On the July 23rd 1966 the aircraft was transferred to the NASA Langley Research Center in Virginia as NASA 520. On 27th August 1967 XS694 suffered a crash landing and was subsequently written off and used as a spares source for the other NASA Kestrel. The remains were bought and used in a paintball field, where it suffered most of its current damage, before it was rescued by the private owner who sold it to the Wings Museum.

The Museum has started a full restoration to static display standard and has already acquired an early RR Pegasus engine for the aircraft but many components are still needed. The Gatwick Aviation Museum and the Boscombe Down Aviation Collection are assisting. The museum would like to hear from anyone who may be able to help with the project in anyway or provide sponsorship and funding. The team would also like to make contact with anyone who knows more about the aircraft's history or indeed worked with XS694 either here in the UK or in the US. The restoration team has already made considerable progress with the project, using the latest CAD drawings packages to have a new front cockpit bulkhead frame laser cut to replace the damaged one. A set of cockpit instrument panels has also been produced and progress has been made collecting the appropriate instruments but there are still many items needed.

In 2017 the Wings Museum submitted a planning application to erect a new museum building on Dunsfold Aerodrome. The aerodrome has been the subject of much debate for several years regarding the application from developers to build a new garden village, Dunsfold Park. This was finally approved in 2018 by Secretary of State, Sajid Javid. From the outset the Museum has been in regular communication with the property developer with a view to establishing a museum on the site to celebrate Dunsfold Aerodrome's significant wartime and post-war contribution to the UK's aviation heritage. Despite a recommendation by planning officers for approval, local councillors refused the application in late 2018, based on incorrect information from a handful of objectors who were opposed to the scheme. Wings Museum filed an appeal early this year which they have now successfully won, so HS Kestrel GRMk1 XS694 will be returning to its home at Dunsfold.

Restoration progress can be followed at www.facebook.com/wingskestrel.

Editor's Note * 'Prelude to the Harrier' by HCH Merewether, gives the US serial as 18267. 'Harrier-The Vertical Reality' by RM Braybrook states that 18268 was allocated but not taken up, 18267 being applied.

NAVY WINGS HERITAGE FLIGHT

Lt Cdr Steve (Skips) Collier RN Rtd, Navy Wings Chief Pilot, came to Kingston on November 13th to talk about the organisation and aircraft of what used to be called the Royal Navy Historic Flight. Steve has over 10,000 hours in types ranging from helicopters to executive jets, via fast jets and BAe 125s of the Royal Flight. He joined the Royal Navy (RN) in 1970 serving for some 29 years during which he flew Harrier GR3s, Sea Harrier FRSMk1s and FA2s, Hunter Tmk8Ms and Hawks. After the Navy he became a VIP business jet captain and a consultant to, and pilot for, Navy Wings.

Navy Wings, Steve told us, encompasses the Heritage Flight, Naval Aviation Ltd, which operates the hangar, and the Fly Navy Heritage Trust fund raising charity. In 2017 the Navy announced that its support for the RN Heritage Flight would be tapering to £0 over five years. The twenty trustees of Fly Navy Heritage Trust have taken on the funding task. The result is that the heritage aircraft become civil registered but the pilots remain RN officers who must be licensed by the CAA. As yet there is no Memorandum of Understanding for these changes which must be signed off by the Treasury. A state of limbo exists because of government preoccupation with Brexit.

Navy Wings was launched in July 2016 with the aim of keeping the aircraft of the 'core collection' flying in conjunction with privately owned 'associate aircraft' to inspire future generations and to preserve and promote the UK's national aviation heritage. Funds are raised through 'ambassadors' and 'high net worth' (wealthy) supporters, corporate sponsors, trusts and foundations, legacies, supporters, and sales and merchandise.

Steve then described the core collection aircraft starting with the famous Fairey Swordfish Mk 1, W5856, the oldest surviving airworthy Swordfish in the world, which is a "Blackfish", built by Blackburn Aircraft. In 1990, the aircraft was bought from the Strathallan Collection by British Aerospace and completely restored to flying condition and was gifted to the Royal Navy Historic Flight. W5856 was grounded with corrosion in her wing spars in 2003. However BAE Systems constructed new wings which were delivered in 2012. W5856 was restored to flying condition and re-joined the display team in 2015.

Chipmunk T.10 WK608 was built by the de Havilland Aircraft Company at Chester and served with the RN until retirement of the type from service in 1993 when it was transferred to the Royal Navy Historic Flight thus becoming the last flying example of the type in RN service. It is used for continuation training throughout the year and provides the Navy Wings pilots with tailwheel experience needed for Sea Fury flying.

Sea Fury FB.11VR930 was built by Hawker Aircraft Ltd at Langley, was delivered to the Royal Navy in March 1948 and was put up for disposal in 1961. At RNAS Yeovilton the aircraft was used as a spares source for the Royal Navy Historic Flight's original Sea Fury FB.11 (TF956) which had been restored at Dunsfold. With the loss of this aircraft in 1989 the decision was made to rebuild VR930 which was carried out at BAe Brough, eventually returning to flying condition in 1998. After a five years in the hangar undergoing refurbishment the aircraft was gifted by Parliament in November 2019 to Navy Wings where she will be operated on the civil register once the CAA is satisfied with airworthiness evidence.

Sea Fury T.20 G-RNHF (VX281) was the second T.20 aircraft built for the Fleet Air Arm and was delivered to the Royal Navy. In 1963, after modification at Dunsfold (readers may recall seeing VX281 there painted bright red) she was delivered to West Germany for target towing. In 2007 VX281 was acquired by the Heritage Trust from the United States and was rebuilt at North Weald, but in 2014 suffered engine failure during a display at RNAS Culdrose Air Day. She returned to flight following the charity's successful appeal to buy a new Centaurus 18 engine and is now operated by Navy Wings. If CAA approval is obtained it is planned to offer flights in the T.20 to raise funds.

De Havilland Sea Vixen G-CVIX (XP924) was delivered to the Navy in December 1963 and served until 1971. Flight Refuelling converted her to a drone in 1973 and in 1996 she was acquired by de Havilland Aviation. In 2003 she was painted in "Red Bull" colours as a sponsorship arrangement and was subsequently purchased in 2006 by Drilling Systems Ltd (Mr Julian Jones) and operated from Bournemouth. March 2007 saw a return to Naval colours as XP 924 with the 899 Naval Air Squadron mailed fist logo. In 2017, operated by Navy Wings, XP 924 suffered a hydraulic failure resulting in a successful wheels-up landing by Simon Hargreaves. The aircraft is now in a period of suspended maintenance while a repair plan is developed and problems with the CAA are resolved.

Sea Hawk FGA.6 WV908, built at the Armstrong Whitworth factory at Baginton and delivered to the Royal Navy in 1955, flew with 806 NAS until 1960. In 1971 she was acquired by RNAS Culdrose where a team of volunteers restored her. In 1978 WV908 flew again and in 1982 joined the Royal Navy Historic Flight. From 1989 to 1996 she underwent a complete refurbishment at Dunsfold but now awaits funding to provide a flight-worthy R-R Nene engine.

Aircraft in the Associate Collection are privately owned and operated but fly in collaboration with Navy Wings. Current Associates are: Avro 504K replica, Bristol Scout 1264 rebuild, North American Harvard T.6 (AT-6D Texan), Westland Wasp HAS.1 XT420/G-CBUI, XT787/G-KAXT, Westland SA341C Gazelle HT.2 XX436, Stinson Reliant 42-46703, Westland Sea King HU.5 XV660, Westland Wessex 5 XT761/G-WSEX, Douglas Skyraider 126922/G-RADR. Future Associates include: Supermarine Seafire 17, Hawker Siddeley Sea Harrier FA.2, DH 82ATiger Moth T8191.

Steve finished his talk by outlining his wide ranging career in aviation which included an ejection from a Sea Harrier, firing AMRAAMs at Phantom F-4 drones from the Sea Harrier FA2 during trials at Eglin, flying Royal family members from the Queen downwards and members of the UK Government from the Prime Minister downwards - not forgetting flying the Grumman Gulfstream G.550 which can reach anywhere in the World with just one refuelling stop! The vote of thanks was given by Frank Rainsborough, a long standing supporter of Navy Wings and its predecessors.

TEST PILOT MEMORABILIA

On January 8th 2020 Jill Hollingsworth, a friend of Member Robin Jowitt, came to the Hawker Centre to show her collection of test pilot memorabilia and books. Jill's interest all started when her father took her to the Farnborough Air Show in 1952 on the day that John Derry's DH110 broke up and the engines crashed into the crowd of spectators watching from a hillside, killing and injuring many. Today that would have been the end of the show but then attitudes were different and immediately Neville Duke took off in his Hawker Hunter to divert attention from the disaster. Jill and her father looked on in wonder to see the amazing display after Duke's test pilot colleague had so violently died.

This sparked a desire in Jill to meet this pilot. Her chance came the following week, when a quiz in the local paper on aircraft recognition was included, with the prize to be presented by Neville Duke. Jill entered the competition correctly but was balloted out so she wrote to him and he invited Jill and her father to visit Dunsfold aerodrome. Neville showed them round, gave Jill an autographed photograph and, the highlight of the visit, took her to sit in the Hunter cockpit.

Jill's friends at school were writing to film stars for their autographs and when a reply arrived they were proudly shown around. Jill thought she would try this with test pilots and got incredible results which were laid out for Members to examine. Just about every famous British test pilot of the era replied to Jill sending autographed photographs of themselves or their aircraft with personal letters, mostly on company headed notepaper. Seeing these items was very nostalgic for members, many of whom (like your Editor) had been schoolboy enthusiasts at the time, some even being at that disastrous Farnborough display.

THE HARRIER IN 1/48th SCALE - Part 2 continued from NL.54

Harrier modeller Graham James concludes the story of his hobby...

At the time I started, I had a limited choice of kits which has only recently been expanded. Airfix, who I'm sure everyone knows, produced a kit for the GR3, FRS1 and FA2. Monogram had produced kits for the AV-8A, AV-8S, AV8C and GR1. Hasegawa has produced kits for all the second generation Harriers. Monogram had produced an AV-8B and Revell re-boxed the Hasegawa GR7/GR9 kit. Kinetic Models, whom the Harrier SIG have worked with on their kits, has now introduced a modern interpretation of the FRS1 and FA2 and has brought out a kit to make any first generation trainer. The Harrier SIG (Special Interest Group) mastered a conversion set for the second generation two-seater and as a result we can build any production Harrier in 1/48th scale if we wish. Kinetic will be producing a GR1/3/AV-8A/C/S kit in 2019. We're hoping to persuade them to continue with the second generation Harriers and ultimately even the P1127 / Kestrel. Tamiya has produced a GR1 and FRS1 but they are not very accurate in shape and I've chosen never to make one. Naturally all these kits include sets of decals to make individual aircraft but there is a wide range of companies providing alternative decal sheets, conversions, fixes, paint masks, etc that give you a broad choice of build options. If you have your own PC and inkjet printer, you can produce your own stencils and markings. In theory, any Harrier in any scheme is within the remit of the model maker. Once I started my own research into schemes and options, I quickly found that this was often more interesting than making the model. I've probably bought nearly every book that I know of that has been published on the Harrier, collected tens of magazine articles and trawled hundreds of sites bookmarking information, photographs and other model makers' models for reference material. The Brooklands library and archive has also been very useful on occasions, as has Chris Farara's encyclopaedic knowledge of all things Harrier. Indexing of all these references is always my issue - you can often recall seeing or reading about something, but the memory does not always tell you where. Occasionally it does lead to new discoveries when searching for these previous nuggets. Sadly, it doesn't always get the models made and time can quickly disappear. However, I always remind myself it is a hobby and I'm under no obligation to make models! The only time this is not true is when I've committed to make a model for the Harrier SIG display at a model show.

The choice for which aircraft I make is not regimented. I try to find one that has a "story" or can be paired with another or simply has a scheme or squadron that would not otherwise be represented. As I'm reminded on occasion by my commanding officer, they can "all look a bit grey and boring", so I've tried to represent all of the different schemes that have been applied to Harriers and cover all the squadrons or units which flew it. As I mentioned earlier, the original scope has now been broadened and I'm aiming to do one of every squadron and one of every two-seater. This should keep me busy for many years to come!

Kits today are of much better quality than during my youth, not unnaturally. The same applies to paints, glues and decals. Items cast in resin (replacement parts and weapons) and photo-etch can now add incredible levels of detail should you wish to invest the time, money and effort. Equally, you can simply build them "out of the box" as we say, just from the parts and decals provided. I mix and match as required, depending on the choice of aircraft. I brush paint in acrylics usually, though enamels have to be used for some colours and occasionally you can use paint in a spray can. I do not use an airbrush, though I recognise that would give me more flexibility. I make my own decals when necessary, particularly for aircraft serial numbers or codes. Glues used vary with the need and the material, as do the tools. Floor polish is used on cockpit canopies, and occasionally toothpaste and ear-buds. Coffee stirrers have also ended up on one of my models, so not everything used is found in a model shop!

I've made enough Harriers now not to need referring to the instructions, but we in the Harrier SIG have put together guides for those model makers who rarely or have never made a Harrier model. We also provide research information and I've been involved in the production of much of this over the past few years. In fact, as a result of my

Harrier model making and the Harrier SIG, I've met Harrier pilots, engineers and designers and attended numerous events which would not otherwise have been possible nor likely if I'd have chosen other subjects.

I'll not delve into the details of how I go about constructing the models - there's nothing special in what I do and anyway it is probably best demonstrated. There are hundreds of videos on tools and techniques on the web to get you started and I'd recommend you join a local club. There's no substitute for face-to-face discussions and you can also go with the club to model shows where you can see models, buy kits and products and talk to even more model makers about your specialist subjects.

Many people ask me how long it takes to do a model and the answer is I don't know. To me it's a hobby and irrelevant. There's no point in forcing yourself to do a couple of hours because you have the time, you need to want to do it to get the best results. Equally, it takes you a month and someone one week, so what? Suffice to say it's more than a few hours! I'm also asked if Harriers are the only models I make, and the short answer is no. I'm a member of two other IPMS SIGs - the Great War SIG and the Special Schemes SIG. The former I hope is self-explanatory and the latter covers any aircraft (though it tends to be jets) that has or were painted in special markings for whatever reason (squadron anniversary for example). One of my favourite subjects is "eggplanes" because they are simple, fun and intensely annoying to "serious" model makers who think they have no place in the hobby. In effect they are cartoon-style models of real aircraft and simply embody the oval shape of an egg in their structure. All will be made clear once you look at a few in my gallery at my model club's website ... <http://westmiddlesexmodellors.co.uk/Model%20Gallery/Graham%20James/index.html>. My Harriers are included in the club gallery, but here's the link to where you'll find a few extra photos of each <https://myalbum.com/album/B2EWz114mCHM>.

As you will see, I'm now up to 32 Harriers at the time of writing this article. A T10 and T12 are currently under construction. Storage space will one day be a serious limitation, but for now I have some 3 Ikea display cabinets that allow me to show the collection to home visitors. Some other models have already flown into the loft, though they do get the occasional outings at model shows.

BOOK REVIEWS

There is much of 'Hawker' interest in '**Typhoon to Typhoon**', another thoroughly researched work by Chris Gibson, this time covering the design and development of the RAF's ground support aircraft, both projects and actual, and the weapons they carried. The early chapters set the scene by describing the Soviet threat during the Cold War and summarising the aircraft and weapons projected and used before the appearance of the ground attack Hurricane and the outstanding Typhoon and Tempest. Then the story moves on to the Hunter and the efforts to replace it with the abortive NBMR 3 proposals leading to the still-borne P.1154 and the Harrier. The Jaguar, Tornado and RAF Phantom and Buccaneer are covered on the way to the present day Typhoon via AST 396 and AST 403. Interesting as the aircraft are, particularly the dozens of projects from HSA, BAC and BAe, it is the depth of coverage of the weapons and their associated sensors and guidance systems that impresses the reader, all being explained with numerous excellent diagrams by the author. This 240 page book (ISBN 9 781902 109596) has been beautifully produced by Hikoki and is a bargain at £29.95 (or £20.96 from Amazon).

The 30th issue of '**The Aviation Historian**' as usual contains much to delight the enthusiast, your editor particularly enjoying 'Handley Page - the Decline and Fall' by Prof Keith Hayward, covering the industry and government politics, and Sir Frederick's intransigence, in the 1960s which led to the closure of his 1909 company in 1970. Working from original documents, Tony Buttler has contributed 'Struck by Lightning', the story of Armstrong Whitworth's little known supersonic AW.58 projects which were defeated by Fairey's FD.2 and English Electric's P.1.

MEMBERSHIP NEWS

Sadly we record the deaths of Terry Anstey, Bob Head and Francis Rhodes and send our condolences to their families and friends. We welcome new Members Tony Lo and Robert Miller.

MEMBERSHIP LIST - February 2020.

Subscriptions for 2019 - 2020 (£7) are overdue from those 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, Leslie Allen, Peter Amos, Steve Apted, Alan Auld. **B:** Angela Bailey, Brenda Bainbridge, John Baker, Lyn Baker, Colin Balchin, Edward Banstead, Ambrose Barber, Justin Barber, Peter Barker, Graham Bass, Donald Bateman, Richard Bateman, Ken Batstone, Dennis Baxter, Francis Bebbington, Colin Bedford, Peter Bedford, Brian Bickers, John Blackmore, **Andy Bloomfield**, Melvyn Bluck, Keith Bollands, Paul Boon, Betty Bore, Pat Bott, Steve Bott, Bob Bounden, Mike Bowery, Alan Boyd, Roy Braybrook, Laurie Bridges, Arthur Brocklehurst, Peter Brown, Christopher Budgen, Reg Burrell, Robin Burton, Clive Bushrod, Tony Buttler, Dave Byford. **C:** Richard Cannon, Chris Carter, Tom Casey, Bob Catterson, Colin Chandler, Laureen Chapman, John Chitty, Martin Churms, Gerry Clapp, JF Clarke, John Cockerill, Hank Cole, David Collingridge, Nigel Cook, Jonathan Cooper, Patricia Cosgrove, Ron Cosgrove, David Cotton, Nick Cox, Mike Craddock, Shirley Craig, Richard Cripps, **Russ Culley**, Richard Curling. **D:** Clive Dalley, Andy Dalton, John Danse, Afandi Darlington, John Davie, Jo Davies, Trevor Davies, Michael Davis, Diana Dean, Ralph Denning, Wilfred Dimsdale, Mike Diprose, Lambert Dopping-Heppenstal, Cliff Douthwaite, Bill Downey, Barry Dreghorn, Gwen Duke, Chris Dunhill, Graham Dunn, Gordon Dunne, Mike Dyke. **E:** Andy Edwards, Barry Elliott, Stephen Elliott, Tony Elliott, Celia Evans, Norman Evans, Roy Evans. **F:** Russ Fairchild, Ian Falconer, Mike Fantham, Chris Farara, Adele Farley, John Farrow, Max Fendt, Ian Ferguson, Stan Field, **Geoff Fieldus**, 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, John Gilbert, John Glasscock, John Gough, Andy Green. **H:** Margaret Hamilton, Howard Hancock, Valerie Hanscomb, Liz Hargreaves, Simon Hargreaves, Guy Harris, Thelma Harris, **Bill Harrison**, David Hassard, Juliette Hassard, David Hastie, Norman Hayler, Alan Heasman, Sheila Hemsley, Ted Henbery, Jock Heron, Keith Hertenberg, Frederick Hewitt, Merlin Hibbs, Richard Hickey, Peter Hickman, 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:** Barry Jackson, Simon Jackson, Graham James, John Janes, Mick Jeffries, Mark Jennings, John Johnson, Andy Jones, **Ian Jordan**, Robin Jowitz, Alf Justin. **K:** Andrew Keech, Barry Kensett, Dennis Ketcher, Bill King, Dave King, Jim Kinross, Kieran Kirk. **L:** Mike Laker, Rich Lambert, Richard Lane, Paul Latham, **Andrew Lawson, Stanley Lawson**, David Lee, Geoff Lee, Stuart Leigh-Davies, Mark Lewis, Vernon Lidstone, **Gary Lillistone**, Andrew Lloyd, Dawn Lloyd, Tony Lo, Norman Long, Terry Long, David Lovell, Lynda Lucas. **M:** Anthony Mabelis, Albert Magee, Al Mahoon, Mick Mansell, John Marsh, Brian Maton, John McCarthy, Don McGovern, June McKeon, John McKillion, Keith McMahon, Mike Mendoza, Alan Merriman, Jim Middleton, Robert Miller, 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, David Oliver, John O'Sullivan, Robin Owen. **P:** Les Palmer, John Pearce, Barry Pegram, Martin Pennell, Dick Poole, **Mat Potulski**, Dave Priddy, **Mike Pryce**. **R:** Clive Radley, Frank Rainsborough, Paul Rash, Diane Raymond, Vanessa Rayner, David Rees, Brian Renwick, Geoff Richards, Robert Richardson, Chris Roberts, **Alistair Robertson**, Edward Rogers, Peter Ryans. **S:** Ian Sandell, Tim Sargent, Bernie Scott, Alex Seaman, Ray Searle, Maurice Shakespeare, Mike Sharland, Douglas Shorey, Derek Sims, Gerry Sims, Peter Sinclair, Siva Sivalingham, **Charles Smith**, Karl Smith, Roy Sparrow, Don Spiers, Peter Spragg, Mary Stark, **Helen Steinlechner**, Chris Stephens, June Stephens, John Strange, **Nick Stroud**, Christine Strudwick, Tony Strudwick, Terry Summerfield, John Sweetman, Bill Swinchatt. **T:** David Taylor, Stuart Taylor, Brian Tei, Joanna Terrell, Geoff Tomlinson, Graham Tomlinson, Richard Townsend, Rod Tribick, Kevan Tulip, Bert Turner, Michael Turvey. **V: W:** Terry Walker, Mark Walsingham, Dave Weatherley, Michael Weatherly, 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, **Kuo Wong**, Richard Wood, Alan Woolley.