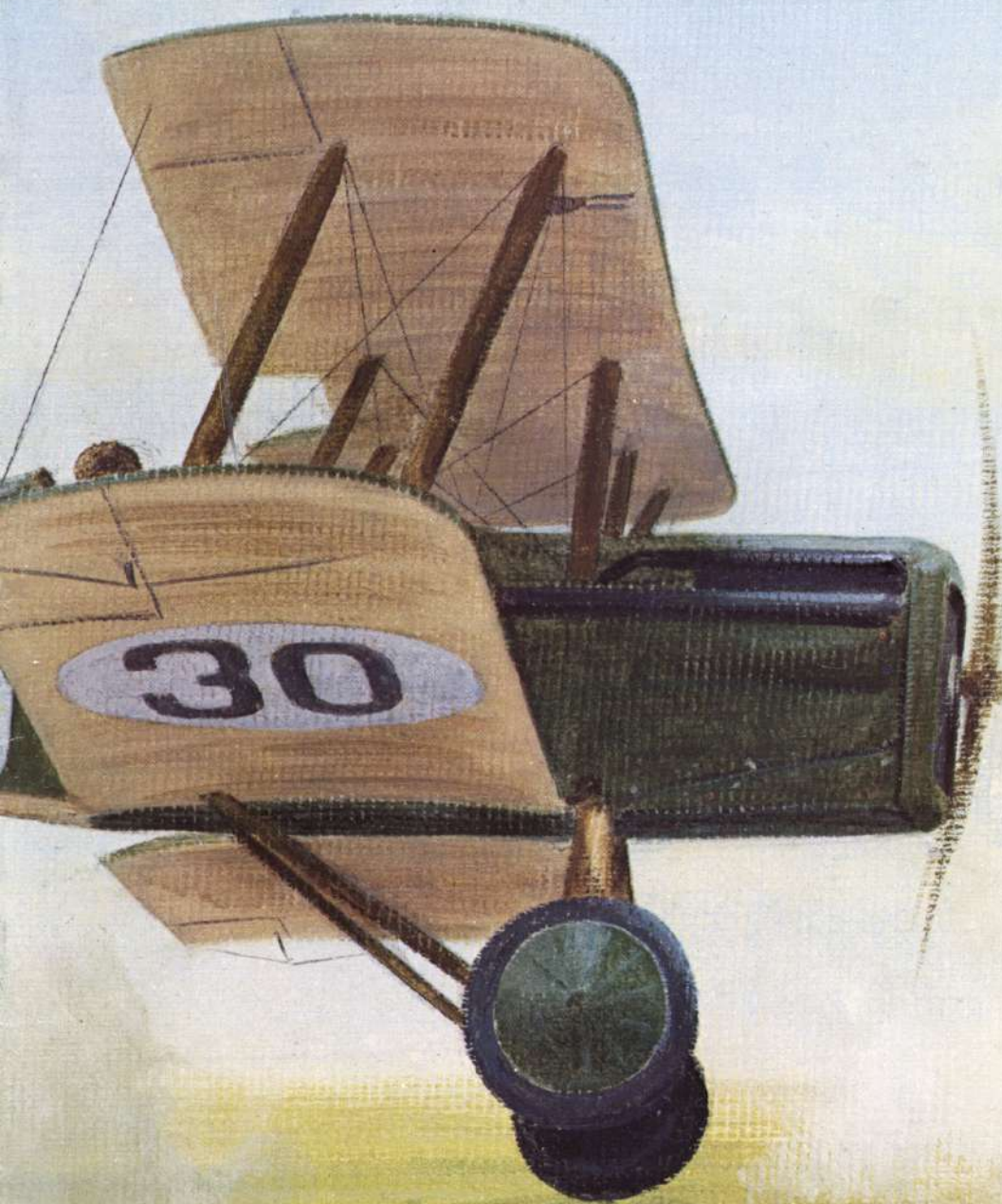


£1.00

# Air-Britain Souvenir 81



CLIFF MINNEY 81



**JANE'S**  
where  
the facts  
are found

*JANE'S are proud to be working closely with  
AIR-BRITAIN in the production of  
this souvenir programme and wish everyone  
a happy and successful INTERNATIONAL FLY-IN '81*

# Introduction

Not since 1973 and the Silver Jubilee of our formation has *AIR-BRITAIN* produced a Souvenir Booklet for sale to the general public. That is not to say that *AIR-BRITAIN* has been idle, having produced countless monthly, bi-monthly, quarterly journals for its members and many Monographs on varied aviation topics for sale to members and public alike.

With the Fourth international Fly-In at Old Warden on 12 July 1981 becoming a rather special event in many senses, it was felt that 1981 should see the production of another Souvenir Booklet. *AIR-BRITAIN* is grateful indeed that *JANE'S*, long synonymous with everything that is best in aviation publishing, should join with the Association to present what you are now holding in your hand.

The aim of this Booklet is two-fold: to present some examples of what *AIR-BRITAIN* has to offer, and to provide some back-ground information on activities at Old Warden on 12 July 1981.

Some of the contents feature reprints of articles that have already appeared in regular *AIR-BRITAIN* journals but others have been specially researched for this Booklet. In particular the individual histories of many of the aircraft to be seen at Old Warden on 12 July have been compiled by specialists in *AIR-BRITAIN*—all volunteers dedicated to the cause in their spare time—and go to show just what can be recorded over the years by real enthusiasts.

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Produced by Janes Publishing Company Limited for Air-Britain (Historians) Ltd.  
Printed by Netherwood, Dalton Co., Ltd., Huddersfield. 1981.

# Perrier Balloon

*PERRIER* is a household name for natural mineral water drinkers. Bottled at its natural source at Vergeze near Nimes in Southern France, Perrier is a popular line in its gold-topped screw cap litre bottle. Perrier has its origins at the turn of the Century when St. John Harmsworth (of publishing family fame) purchased a spring at Vergeze where it is reputed that Hannibal watered his elephants in 218 BC. That may be a lot of hot-air, but it takes a lot of that to inflate the Perrier balloon which was commissioned from Don Cameron at Bristol earlier this year. The bottle (and balloon) is based on the Indian Club shape adopted by the Founder who used such clubs for remedial exercises after becoming paralysed in car accident.

The balloon, wearing the registration G-PERR, is operated for Perrier by The Balloon Stable of Ramsbury, Wiltshire, already well-known for their operation of the Champion Sparking Plug special-shape hot-air balloon, as well as several others of conventional size and shape carrying particular advertising logos for their owners.



# Air Britain Souvenir 81

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# Air-Britain— A short chronology

*Air-Britain* was formally inaugurated on 1 July 1948 but perhaps a short backward look would help to place that historic event in perspective.

Although inevitably 'spotters' existed before World War 2, the public image of skyward-gazing people with binoculars was heightened by Wartime observers who banded together to give early warning of enemy aircraft. These were a very useful band of observers supplementing the official activities of the Royal Observer Corps and at the height of the Blitz over the Winter of 1940/41 the first official branch of the National Association of Spotters Clubs was formed. Holding organised meetings and learning the skill of recognising all types of aircraft, some 800 local branches eventually formed and were co-ordinated through a National Committee.

However, when the War ended some of the enthusiasm waned and branches closed down and many privately produced magazines (usually hand-roneoed) ceased publication as the hard core dispersed. During the hey-days of the NASC Temple Press enthusiastically supported the movement through its *Aeroplane Spotter* journal and in fact was the official organ of the NASC. On 23 March 1946 the NASC was officially wound-up but several local groups of enthusiasts refused to give up their hobby and gradually shifted their emphasis to civil aircraft and continued to log aircraft as they saw them.

For the next couple of years several local associations came and went, with different degrees of enthusiasm, and attempts were made to co-ordinate activities via national bodies. *Aeroplane Spotter* remained an advocate of these clubs and called for some form of national co-ordination, avoiding conflict of interests and the inevitable self-seeking attitudes of some worthy souls. A British Association of Aviation Clubs managed to become established as did another body, the South-Eastern Aero Clubs Association.

Eventually, under the keen and enthusiastic guidance of Charles W. Cain, the then, and last, Editor of *Aeroplane Spotter*, these two main bodies agreed to merge under a banner to be known in due course as *Air-Britain*. Charles used the medium of his journal to the last to promote this organisation and when *Aeroplane Spotter* was finally put to rest, there remained the embryonic organisation that now exists to this day as *Air-Britain*.

It is probably true to say that during the first couple of years *Air-Britain* survived mainly through the publication of a hand-duplicated

news-sheet giving the latest British Civil Registrations which kept those 'in-the-know' several steps ahead of other less enlightened spotters at aerodromes in the United Kingdom. From a somewhat shaky start (especially financially) *Air-Britain* produced its first house journal *Digest* (the name which has been kept to this day) in 1949 and the following year started to issue news-sheets giving Overseas Registers information. Next year the military enthusiast was catered for through the medium of *British Military Serial News*.

In 1952 the first link with the national journal of the Air League, *Air Pictorial*, was forged and we are pleased that today *Air-Britain* continues to provide a regular monthly input as well as articles from many members who cut their teeth with *Air-Britain*. By 1953 some 30,000 separate magazines were despatched by what is still today the *Air-Britain* keyword—**Voluntary** labour. In 1954 *British Civil Register News* appeared for the first time in properly printed format and later that year *Digest* followed suit. In 1955 a new magazine appeared in the shape of *Overseas Airline News*. Three years later the *Overseas Civil Registers* publication split into two with *European Aviation News* and *Commonwealth Aviation News*.

Expansion of services became the password for several years thereafter, with more and more information being disseminated to more and more dedicated aviation enthusiasts, and the former duplicated or early-litho sheets gradually gave way to properly printed and professional-looking journals. So much so, in fact, that on 24 April 1968 it was decided to formally incorporate the association as a Company limited by guarantee to preserve the integrity of what was becoming a considerable business with no small turnover. Thus, because of structures of company name registration, *Air-Britain (Historians) Ltd* formally came into being, although nearly always it is referred to simply as *Air-Britain*.

Elsewhere some of the products of *Air-Britain* are described and what has led to the Fly-In at Old Warden on 12 July 1981 when this booklet is being published. Suffice it to say in this brief exposition of *Air-Britain* history that none of it would have been possible without the tireless efforts of a handful of dedicated individuals who have given (and continue to give) so much of their spare time to a cause that they fervently believe in. If you are reading this as a current non-member of *Air-Britain* please take advantage of seeing for yourself what *Air-Britain* has to offer and it must become evident that the original concept of a 'spotter' has progressed over the years to become dedicated aviation enthusiasm. So many members have originally started as spotters, to become in later years prolific writers on aviation topics. It is also true to say that from some of the early enthusiasm to merely see aspects of aviation, many go on to fly themselves or even own their own aircraft and then find themselves the object of the aviation enthusiast's attention!

To all past members of *Air-Britain* we say a heartfelt **Thank You** and to others we say **Welcome!**

## Air-Britain and the public

Strictly speaking it is probably true to say that *Air-Britain* has always aimed at public recognition. As has been stated already in this booklet, *Air-Britain* came into existence through groups of individual aviation enthusiasts who had already recognised a common bond and had formed particular local clubs. Consequently, from those initial days in 1948 *Air-Britain* has always striven to encourage local enterprise and it is probably true to say that membership of *Air-Britain* represents membership of a large Club—a Club, however, that because of its nationwide (and later international) composition necessarily cannot meet together as easily or as often as is desirable. The medium of contact has for many years been via *Air-Britain* journals and the common bond has been the thirst for the very latest information on aviation happenings and a desire to preserve for all time details of what has happened. The adage that 'Today's events are Tomorrow's History' is very apt for *Air-Britain* and without much of what has appeared in *Air-Britain* journals over the years, many facts and figures would be lost for all time, or at most embedded in the hazy memories of aging enthusiasts; the latter not conducive to accurate history.

Like many similar organisations *Air-Britain* has grown from strength to strength largely by word of mouth from existing members to those temporarily uncommitted. In the next few pages, therefore, is set out the methods that *Air-Britain* has adopted to get the message across to a wider public.

### **Air-Britain branches**

Immediate information exchange is often a requisite of any dedicated group of enthusiasts, whatever their common bond, and how better to achieve this than through regular meetings centred on convenient locations for local groups. Such local Branches usually operate on

similar lines. Monthly gatherings (often based on a convenient public house or youth centre) hold film-shows, slide-shows, aviation quizzes, obtain the services of local aviation personalities, or organise trips to airfields or aircraft production lines. In the early days there were perhaps more companies to visit than is the case today, due to the contraction of the UK aircraft industry, but as travel has developed over the years, branch enterprise often extends to European airfield visits. During 1981 for example a group from the Stansted Branch visited Holland, including a tour of the Fokker production line. Such is the dedication of some local Branches that they produce Newsletters of such interest and quality that these are available for sale to a much wider public and naturally provide a much needed source of revenue for other Branch activities. Notable in this respect are the Luton and Manchester Branches. As well as providing an excellent opportunity for spreading the worth of *Air-Britain* locally, the efforts of these local members is often reflected in the data produced in the house journals or Monographs. Members of the Branches often form the hard-core of manual effort needed to man the travelling Display Sales Stand when it attends major Displays around the country.

Details of Branch activities can be obtained from the respective Honorary Secretaries at the following addresses:

Bristol—P J Davies, Groom's Cottage, Boders Hill Road, Tytherington, Avon.

Gwent—A I Carless, 49 Queens Hill Crescent, Newport, Gwent NPT 5HG

Heston—K F Measures, 76 Trevelyan, Bracknell, Berks RG12 4YD  
Luton—D E Banham, 21 Langdale Avenue, Harpenden, Herts AL5 5QU  
Manchester—G W Leese, 12 Fountains Road, Bramhall, Stockport SK7 1ET

Peterborough—P Crittle, 2 Manor Farm Cottages, Elsthorpe Road, Stainfield, Nr Bourne, Lincs PE10 0RS

Rugby—M Hayes, 9 Bridge End, Southam, Nr Leamington Spa, Warks.

Sheffield—S Wills, 475 Whirlowdale Road, Sheffield S11 9NH  
SW Essex—P C Dray, 164 Chase Cross Road, Collier Row, Romford, Essex RM5 3UU

Stansted—M J Bareham, 114 Jaywick Lane, Clacton-on-Sea, Essex CO16 8BB.



## London Society of Air-Britain

From the inception of *Air-Britain* it was the aim of those connected with forming the organisation to establish some form of National Headquarters or 'shop-window' where potential members could see the benefits of joining for themselves. Consequently, in 1955 the London Society was formed, where the emphasis was to be on projecting the image of *Air-Britain*, mainly through the medium of Lectures and Film/Slide Shows at a convenient centre in the Capital. Charles Cain, our Founder, for many years 'fronted' LSAB and without a doubt it was he who often kept 'the Show going' when circumstances beyond *Air-Britain's* control prevented the speakers from attending, and occasionally when projection equipment failed to operate. His continual unique brand of wit entertained so many of those who attended some of the earlier meetings that I am sure many wished for more 'breakdowns' on occasions! His own brand of persuasion enabled many guest speakers to be obtained from the cream of aviation industry who may have initially wondered just to whom they were about to lecture. When they had finished their particular evening, so many have gone away to spread the word about *Air-Britain* in a way that no amount of paid advertising in journals and newspapers could ever have achieved. Certainly, London Society acts as a public image and the range of topics discussed cover almost every facet of aviation. A particularly popular evening occurs every year with the November gathering of London Society, when a group of leading Test Pilots is assembled on the platform. For the first half of the evening they discuss topics raised from questions prepared in advance and the second half is usually devoted to questions from the assembled audience. Apart from the informative nature of such a gathering, there is the inevitable humour and the great asset is that all comments are strictly 'off the record' and never reported. That such an august assembly of personages is prepared to give up an evening of valuable time is an indication of the status that *Air-Britain* has achieved over the years in the eyes of this particular section of the public—quite a long way removed from the initial 'spotter' image.

London Society meets September to June and non-members, visitors and guests are all very welcome. **Contact** Hon Secretary Charles Oman c/o 9 Avenue Gardens, Horley, Surrey RH6 9BS. Telephone Horley (02934) 71262 and Putney 01-788 2744

## Sales Stand

From its inception *Air-Britain* has predominantly been a postal communication organisation. The lifeblood of the organisation has been the dissemination of aviation facts and figures, usually as quickly as production and compilation will allow. The multiplicity of different monthly or irregularly produced journals placed great strain on a small hard-working band of dedicated enthusiasts who suddenly found that their free time became devoted to administration rather than pursuing their hobby to which they were supposedly committed.

Apart from the London Society and local Branches it also became evident that *Air-Britain* ought to be flaunted at a wider public to stimulate more members. Thus on 11 July 1964 a small band of members was to be seen struggling to erect a few trestle tables and a multitude of publications in a hangar at RAF Abingdon.

The *Air-Britain* display area was at the end of F Hangar nearby to the 162 ft wing-spanned Beverley of 47 Squadron. The *Air-Britain* spectacular comprised five 4ft by 6ft display panels surmounted by a 4ft version of the *Air-Britain* 'bird' emblem. Spread over this vast surface were some 100 photographs depicting Service and Civilian aircraft and proclaiming the services available from *Air-Britain*.



Photo by Martin Smith shows stand in action at 1979 Fly-in

Today the Sales Stand has a regular monthly slot at the Shuttleworth Collection's Flying Days at Old Warden and is always to be seen at the annual Biggin Hill Air Fair and alternate years at the International Air Tattoo's Greenham Common spectacular. Between these other major displays are also attended, not forgetting the annual Popular Flying Association 3-day Rally at Leicester (synonymous with Sywell for so many years). Such is the propensity of the United Kingdom's weather that the worthy souls who man these stands have to be alert to quickly protecting *Air-Britain* wares if the site is of the outdoor variety. The amount of material that is available to the general public from our Sales Stand has to be seen to be believed. In addition to our own Monographs

(which increase in number and size almost every year) *Air-Britain* also has available publications from other organisations, both professional and voluntary. Notable inclusions are *Aeroplane Monthly*, *Propliner*, *Air International* (including their Quarterly productions), *Vintage Aircraft*, *Bizjets*, *American Civil Air Registers*, and most of the publications from *Midland Counties Publications* and the *Merseyside Aviation Society*.

As well as providing welcome revenue to be ploughed back into the *Air-Britain* coffers to produce even more Monographs, the Sales Stand also acts as a focal point for the public to enquire about *Air-Britain* services and there are always available copies of the organisation's regular journals and Membership may be obtained on the spot.

## Air-Britain Monographs

From its inception *Air-Britain* has striven to amass all that there is to know about particular facets of aviation and this has been reflected in the countless articles that have appeared in *Digest* and, more recently, in *Aeromilitaria* and *Archive*. Some subjects, however, receive such in-depth attention that to cover them in regular journals would either take over an entire issue or would have to be serialised. Thus it was decided some years ago to produce complete booklets, or Monographs as they have become known, on individual topics and to make them also available to the general public, albeit at prices considerably in excess of those paid by *Air-Britain* members.

The Register Monographs have become well established and the tabular presentation herein of International Registration Prefixes indicates the wide coverage given to this aspect. Two of the earliest Monographs, however, featured historical summaries of individual Airlines and the Belgian Airline *Sabena* was placed under the microscope in 1965, closely followed the next year by *Air Canada*.

In order to reflect the vast historical delving of particular *Air-Britain* Specialists, a series has also been devoted to individual aircraft details. Types featured have included the Douglas Commercial series with the DC-1, DC-2, DST and the first batch of the famous DC-3, the DC-4 (including the Canadair 4 version), DC-5, DC-6 and DC-7 (two editions published) and the DC-8. So far, the Boeing jets 707, 720 and 727 have been featured and from the piston era the Lockheed Constellation and the home-produced Vickers Viking, together with its military counterparts and developments, the Valetta and Varsity. The Curtiss C-46 Commando has been published to rave reviews in the USA and this was also produced in hard-back format. More recently types covered have been the Fokker F-27 Friendship (plus the Fairchild-built version), the IAI Jet Commander and Westwind and the Lockheed Electra. Even more recently a novel departure from the single-type Monograph has been the *French Post-War Transport Aircraft* publication featuring a whole host of well-known types including the best-seller Caravelle—a Monograph within a Monograph. Other previous multi-type histories have been the de Havilland Dove & Heron and a set of Bristol types featuring the Type 170, Britannia and its Canadair CL-28 and CL-44 variants. Two earlier productions of a slightly different nature have been *Business Jets International* appearing in 1971 and *Jet Airliners of the World*, first appearing in 1974 and updated and reprinted in 1978. Both of these productions featured production lists of all of the types covered, without going into as much detail as the type history Monographs. Registers that have gone into detail, in the minutest way have been those in the Historical British Register series. Three have been published to date, covering the first UK Registrations of 1919 up to 1928, a second volume taking it up to 1930, and more recently a jump ahead to slightly more modern times to feature the multitude of types in the mid-1950s. For the future, both ends of the scale will be extended.

Although the civil enthusiast has perhaps been better catered for, the military buff has not been forgotten, despite the fact that, with security in mind, *Air-Britain* has never ventured into the lists of current serial numbers. In the 1950s a much acclaimed (albeit not in the style allowed by more modern printing methods) publication was the *Lancaster Log* giving individual histories of this famous aircraft. In 1962 the gap between military and civil aspects was bridged in magnificent style with the publication of *Impressments Logs*. Neither before nor since has so much been written about the activities of all civilian aircraft impressed into RAF use at the outbreak of the Second World War. If that was a labour of love for its compiler, so was *RAF Unit Histories*, the first volume of which appeared in 1969, detailing all equipment and operations of RAF Squadrons from 1918 to 1968. Finishing with No. 200 Squadron, readers had to wait until 1973 for the continuation of the series. *Air-Britain* was proud to produce a totally updated hardback version in one volume of over 300 pages at the end of 1980 under the title *The Squadrons of the Royal Air Force*. It would seem that this is likely to deservedly receive similar acclaim. Smaller military Monographs have included the history of 105 Squadron, entitled *Battle Axe* and the story of *RAF Biggin Hill*, but in 1979 another superb individual type compilation appeared as *The Stirling File*. Produced in collaboration with Aviation Archaeologists Publications it tells the history of this famous bomber in great detail.

Details including prices, of currently available Monographs are shown elsewhere in this Booklet and it is hoped that during 1981 a joint venture with *Jane's* will be announced.

## Cirencester Park 1973

1973 saw the achievement by *Air-Britain* of 25 years of voluntary dedication to the cause of aviation history and the latter part of 1972 found the monthly meetings of the controlling body of Directors deciding ways and means of celebrating this worthy event. The thought of an Air Display came and went mainly due to the depth of organisation and planning required together with the attendant safety and other regulations to be catered for. At that time the sport of hot-air ballooning was increasing gradually and since gatherings of such devices did not require an airfield as such, just open space with adequate tree cover from the elements, it was decided to mount a Balloon Meet.

Since one or more active members had landed on occasion in a hot-air balloon in the spacious grounds of Cirencester Park in Gloucestershire and received a friendly reception from the land-owner, Earl Bathurst, approaches were made to this worthy soul with a view to utilising as a launching area the newly opened Leisure Park area of his 15,000 acres.

As plans hardened and interest spread around the ballooning fraternity, it became evident that the Meet would gain an international flavour. It then struck your band of organisers that the public in the UK had not witnessed any reasonably large assembly of gas-filled balloons for many years and it was decided to involve this part of the ballooning world. Such was (and still is) the cost of hydrogen that outside financial help had to be sought and this was arranged via a charity involved in research into Cot Deaths (more correctly known as The Foundation for the Study of Infant Deaths).

By the day of the event, 16 June, entries for both categories had reached mammoth proportions (for that time) and *Air-Britain* found that not only had it made a first for the Association but it had achieved the largest gathering of balloons in Europe up to that time.

On the Saturday the sun shone with a vengeance and the crowds flocked into Cirencester, albeit only the early arrivals witnessing the ascending colours of hot-air balloons from 0800 Hrs until some two hours later, about 30 had become airborne. Among those taking part were the largest and the oldest. At that time the largest to emerge from Don Cameron's stable at Bristol was G-AZUW named *Cumulo Nimbus*, a monster of 140,000 cu ft capacity. The oldest was a homebuilt by a Finnish enthusiast, sadly now dead, who delighted local children in the late evening by tethering himself to one of the trees in the Park and giving brief flights. Other firsts included the French-built *D'Artagnan* on which the pilot sat astride a framework over the propane cylinders. The late Robert Burns brought along his homebuilt *Contrary Mary* and Suffolk policeman Geoff Payne flew his *Shoestring*. Completing the hot-air line-up of International guests was Brian Boland with his US-built *The Phoenix*.

An even more International flavour attended the gas balloons with examples registered in France, Belgium, Germany and Holland as well as flushing out three of the rarely seen (at least in the UK) British examples. The pilots themselves of these beasts read like a Who's Who of gas-ballooning: veteran Chales Dollfus, Anthony Smith, Gerry Turnbull together with Stuart Cameron from the RAF and Patrick Furlong. We must not forget the genial group of German balloonists from the Tecklenburgerland Club who showed how a somewhat serious hobby could be approached with humour and good-natured fun. Jo and Nini Boesman the leading exponents of the art from Holland and Albert van den Bemden, a prolific manufacturer from Belgium completed the colourful line-up. Looked at today perhaps the size and shape of the hot-air balloons appears conventional but the embryo advertising potential of such aerial devices was evident on the famous Nimble Bread balloon and Esso and Budget Rent-a-Car names were also to be seen.

One of the afternoon's side attractions was a foretaste of what is now commonplace. Locally based Birdman Productions had recently started to demonstrate their Human Bird act using a Rogallo wing beneath which Ken Messenger hung to a frame and was towed aloft behind a car and then free-flew back to the ground. Little did *Air-Britain* realise that they were assisting in the birth of the Hang-Gliding movement.

Only one other major ballooning event took place at Cirencester when the *Daily Express* took over the following year and only Don Cameron's weekend schools for budding hot-air balloonists have been seen since. Maybe for *Air-Britain*'s 50th Anniversary . . . . .

## Old Warden 1978

Flushed with the incredible success of the Silver Jubilee celebrations, when the prospect of achieving thirty years appeared on the monthly meetings Agenda it was decided that not even an organised event at an airfield was beyond *Air-Britain*! Where and when would it be held and what should be the format? For some years the mobile Sales Stand had maintained a presence in No 1 Hangar at Old Warden for each of the Shuttleworth Collection end-of-month Flying Days and this had become virtually a shop window for *Air-Britain*. In consequence, it was decided to approach The Trust for permission to use the airfield. This was performed with no little trepidation for Old Warden has acquired an outstanding reputation for the preservation of unique aircraft and the idea of letting a bunch of amateurs loose to organise an event



PH-BVH was one of the nine gas balloons attending Cirencester Park in 1973. Named Marco Polo and wearing Nimbus advertising, it is seen here at the 1974 event, a repeat organised by the *Daily Express* (Peter Bish).

might not have appealed to the operators. However, such was the esteem with which *Air-Britain* had become endowed that agreement was reached with little difficulty. The 30th Anniversary Fly-In was launched!

Although countless invitations had been prepared and despatched to vintage aircraft owners, your team of organisers (for that is what it needs for such events) assembled on the airfield on Sunday, 9 July wondering if the name of *Air-Britain* had meant anything to the recipients. The continuous rain the previous day did nothing to calm the nerves either.

When an aircraft was observed joining the circuit around 1000 Hrs the adrenalin flowed through the collective veins in anticipation and on observing a French Registration began to dry up again. This could not possibly be anything connected with our Fly-In. However, on landing Robin DR.315 F-BRZO proved to be the result of cajoling by some *Air-Britain* French Branch members and was joined later by DR.400 F-



Philip Wolf with his Beech 17 Traveler G-BDGK, chosen by the public at the 1978 Fly-In as the aircraft that made their visit worthwhile (Martin Smith).



BTKH later in the morning. Over 40 aircraft eventually arrived for the Fly-in, including several noteworthy machines. Philip Wolf turned out in his immaculate Beechcraft D.17S G-BDGK, being the first visit to Old Warden for this aircraft which was much acclaimed by the assembled public. *Air-Britain* member John Potheary graced the event with his beautifully restored Taylorcraft Plus D G-AHXE, painted in Service colours, and Roger Bailey turned a few heads when he arrived in the splendid Puss Moth G-ABLS which was the oldest aircraft to attend. Another member of long-standing, Bill Fisher, arranged for the appearance of the unique Beagle E.3 G-ASCC based on the Army Auster AOP.9. Among the home-builts, Cliff Piper was on hand with a Tippy Nipper G-BRIK from local airfield at Rush Green and from the same base came Jim Coates with his own design, the Swalesong SA.11 G-AYDV. Tony Francis brought along his Fury II replica, built from plans marketed by John Isaacs, and G-AYJY has become quite a regular sight at Old Warden ever since. Hardworking *Air-Britain* Overseas Register Editor, Ian Burnett, took time off from typing and also flying British Airways airliners, to arrive in Cherokee 140 G-AZWE from the Airways Flying Club at Booker.

The day was rounded off in great style when John Lewis, returning from a display appearance at Thruxton, demonstrated the Shuttleworth Collection's own Spitfire G-AW11 before returning to its Duxford base. Those pilots who braved turning out for *Air-Britain's* event were rewarded with various prizes made available by our own Bankers, Williams & Glyn's and also by Airtour International, purveyors of books, maps and pilots' paraphernalia who had also been involved with our 1973 Cirencester event.

### Old Warden 1979

Such was the success of the 1978 event, when the excuse was our 30th Anniversary, it was decided to make the Fly-In an annual happening and everyone assembled again at Old Warden on Sunday, 22 July. The day started with almost a repeat of 1978 when the first arrival was French! This was a Cessna Skylane F-BPIU, from Moisselles, which, not unnaturally, flew away at the end of the day with the



One of the homebuilt machines gracing the 1979 event was Peter Leggo's Stolp Starduster Too G-AYMA, for advanced members of the homebuilding art (Martin Smith).

From the first Old Warden Fly-In, AIR-BRITAIN has been fortunate to have the services for aircraft marshalling and parking and sundry run-around duties on the airfield, of members of the No. 85 (Southgate) Squadron Air Training Corps. The Squadron was formed on 1 January 1939 and formally enrolled the first Cadets in April of that year. At that time it lay in the Borough of Southgate, North London and now is part of the London Borough of Enfield. During the War the Squadron boasted over 200 Cadets, many of them joining the RAF and seeing War service. It has always been a well-supported Squadron averaging over 60 Cadets in later years and at present totals over 90 with a Detached Flight at Enfield Grammar

longest-distance award from our Airtour International friends. A total of 57 aircraft graced the airfield, many pilots renewing acquaintance, some in different aircraft, after first visiting in 1978. Some notable veteran machines attended including Hornet Moth G-ADKK, Vagabond G-BDVB, Pacer G-ATBX, Auster J/4 G-AIJR and a pair of Harvards G-AZKI and G-BBHK. Homebuilts once again included the Coates Swalesong and Isaacs Fury but we were lucky to also have the Stolp Starduster Too G-AYMA of Peter Leggo and Wittman Tailwind G-BDBD of Harold Best-Devereux. A new prize sponsor was added for 1979 in the shape of Northair Aviation who decided to award £25 for the most original out-of-sequence registration worn by an aircraft attending the Fly-In. The choice lay between Nord NC.854 G-NORD, Piper Cub G-BCUB and Cessna F.172M G-EN11, the last being the winner, gracing a lighting company's aircraft.

### Old Warden 1980

Following two consecutive successful years *Air-Britain* just had to repeat the exercise and as many will already know, the 1980 Fly-In has become almost legendary. After a week of terrible weather the skies cleared for the Sunday 13 July and promptly closed in again for the days thereafter. Not only did the break allow some 74 visiting aircraft, despite a lack of Continental visitors on the day due to inclement weather the other side of the Channel and North Sea, but also saw over 50 different types on the airfield at one time. The stars of the day were, of course, the aircraft of the Danish KZ & Veteranfly Club from Denmark, who ensured attendance by arriving a week early to sample the Popular Flying Association weekend at Leicester and then arrived at Old Warden the day before our event. More appears elsewhere herein about the KZ line itself but a few of the notable arrivals are illustrated with this brief report. From within the UK two Proctors were flushed out of hiding, a rare event in the 1980s, and a rare flying example of the Miles Gemini dropped by. Homebuilts once again included the Isaacs Fury which was joined by the scaled-down version of the wartime Mustang G-BEFU and more modern Stits Playboy G-BGLZ. Mike Vaisey once again turned out in his Luton Minor homebuilt G-AXKH. Vintage prizes went to a beautifully presented Auster Autocrat from Denmark and to Ron Souch's Moth G-ABEV, now in the USA with its owner. The longest distance on the day was travelled by members of our own Manchester Branch of *Air-Britain*, in a Cessna 205 from Ringway, and Northair Aviation's out-of-sequence prize went this time to Ray Simpson's G-NORD. (Watch this year for Ray in newly acquired Jodel DR.1051 Sicile registered G-IOS1!) *Air-Britain* was pleased to welcome among the prize-givers, Kodak, Britannia Airways and Jane's Publishing Company—the last responsible for this Souvenir Booklet this year.

The end result of *Air-Britain's* flirtation with public events has been to spread the name even further and to once again prove that the Association has moved even further away from the original 'spotting' image.

School. Among many achievements the Squadron can boast of the first Cadet to receive the very first Silver Duke of Edinburgh's Award, over 5 cadets have passed through the RAF College at Cranwell, the Squadron Band has represented the Squadron at the Royal Tournament and many Cadets have taken part in the International Air Cadet Exchange Scheme between countries in the Western World. More recently, thanks to the efforts of a past member, a de Havilland Dove has been preserved following donation by Hunting Surveys Ltd at Leavesden. Participation at the AIR-BRITAIN Fly-In provides the Cadets with contact with good examples of practical aviation as well as considerably helping AIR-BRITAIN.



# Recognition Contest

M.J. Hooks

In November each year *Air-Britain* stages an international contest in aircraft recognition in the Lecture Theatre of the Royal Air Force Museum at Hendon. Nowadays it attracts around 400 entries from individuals, clubs, the cadet forces and the armed services and is, so far as we know, the only contest of its kind in the world. Since I was involved from the beginning until the 1980 contest, the programme editor has asked me to explain the background and provide a small test for your amusement.

The origins of our contest were two-fold; the *Aircraft Recognition Society* had for some years in the 1950s held an all-comers contest in London each year, and at their peak these events attracted around 60 teams. *Air-Britain* began its own small scale contest for members more as an entertainment to follow its Annual General Meetings. Such was the popularity, however, that it was decided to organise all-comers international contests, differing from those of the ARS in that colour movie film would be used instead of black and white epidiastope stills.

The first *Air-Britain* International Recognition Contest took place at Kensington Central Library in September 1961, and 20 teams competed for two trophies, the Tiger Moth Trophy for the highest individual scorer and the *Air-Britain* Challenge Cup for the highest team score. Both trophies went to *Air-Britain*, the South-West Essex Branch getting the team award (75 out of 90) and R.J. Croxon of that team the highest individual award (27 out of 30).

In those early days, members of the Competitions Committee travelled far and wide with *Air-Britain's* ancient cine camera to take unique pictures in the hope of stumping competitors, and with a fair degree of success. The film was spliced together, with parts of old Royal Observer Corps Master Test films providing the numbering sequences between the shots, and the system worked surprisingly well—I can only remember one instance when the film broke at a splice.

By 1966 we had managed to increase our trophies to eight, including awards not only for the supreme champions but for the highest ROC team and individual, highest service team and individual, highest cadet forces team and individual, and highest-placed *Air-Britain* team. In these days it was usually the ROC and *Air-Britain* teams fighting for first place, but standard in the cadet forces increased gradually until they too were beginning to do battle with the others for the supreme awards.

It became obvious that the necessity of producing our own cine colour film for the test was limiting our choice of material so we elected to change to still 35mm colour slides, and 30 of these are used in the test each year. All are taken from their original card mounts and re-

mounted in glass so that once one slide has been correctly focussed all will be in focus.

With memories of some of the dreadful out-of-focus shots suffered during ROC contests, where one merely guessed the answer, I made it a rule that all pictures, however small or large, must be sharp and recognisable, even at a minimum exposure of around two seconds. It may be hard to believe, but it is perfectly possible to recognise an aircraft with a 1/100th of a second exposure using an ROC flash trainer, since if you continue to look at the screen your retina continues to 'see' the image for a while.

The problem is to decide how to pitch the contest so that the experts do not find it too easy and the other competitors do not find it too hard. This is fairly easily achieved in practice by using about 20 reasonable pictures, about six which are rather more difficult and three or four which really make them rack their brains! Even so, the marking panel is usually faced with having to compare the top scorers' papers in some detail to see who has given the most *accurate* additional information such as maker's name, mark number and so on. If spelling were among the criteria, many would find it difficult to reach double-figure scores and this element of the marking always provides a source of amusement and delight to the marking panel!

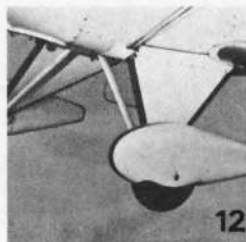
Because of the popularity of the contests and the fact that accommodation in the RAF Museum's Lecture Theatre is limited to less than 200, it is now necessary for us to arrange a knockout competition for the cadet forces services which number more than half the entrants, and this is usually held at Hendon about a month before the main contest, the top teams going forward to the final. Our trophies have now increased to 11, there are modest cash awards and for the past two years the publishers have kindly donated a copy of *Jane's All the World's Aircraft* to the highest individual scorer.

The 1980 contest was the 20th and the last organised by myself; it's all been great fun and I shall, of course, attend, but not compete in future contests. When my ten-year-old son can get 28 out of 30 right without having previously seen the pictures, I think it's time for the old man to step down and let him compete!

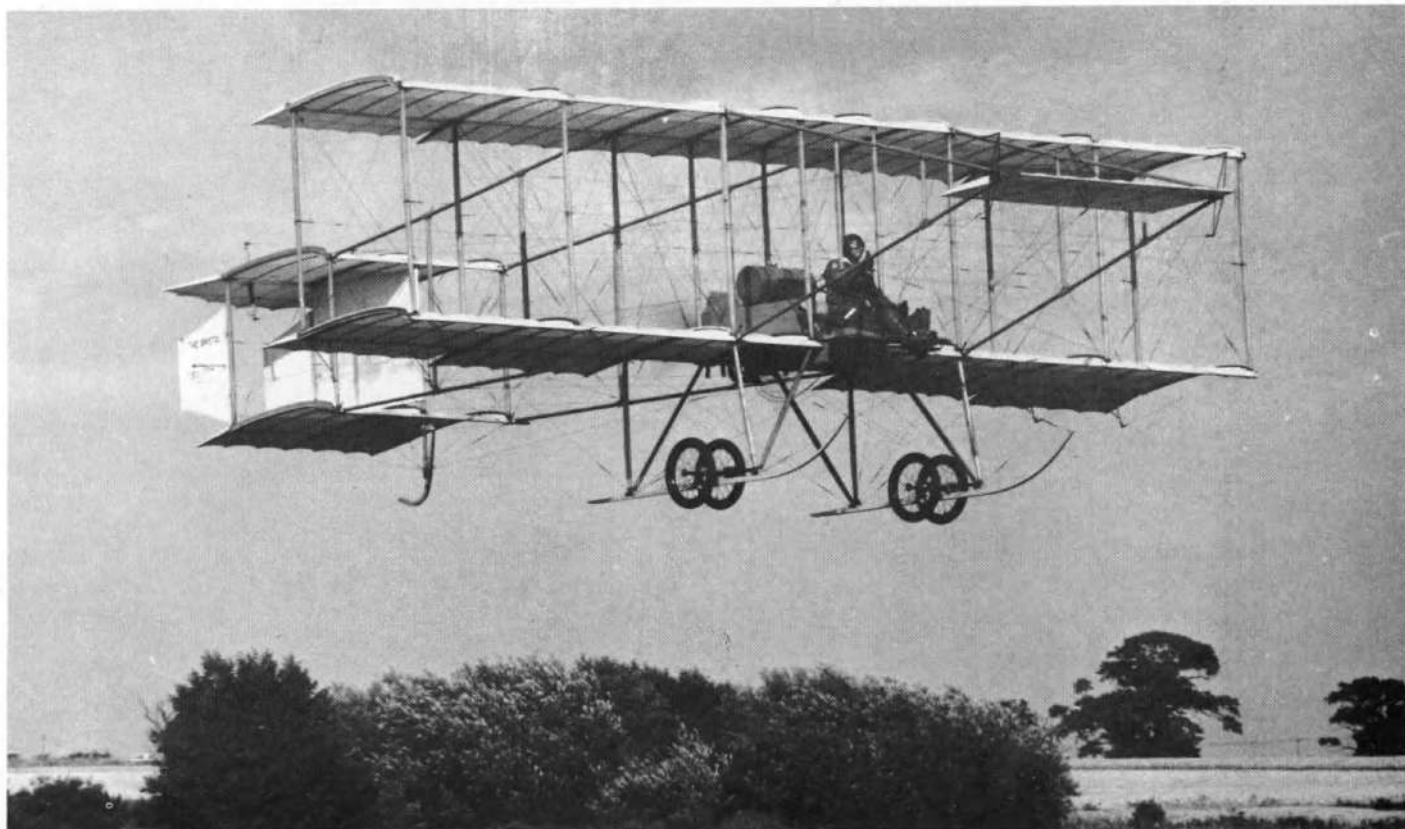
If you are interested in competing in the contest this year write for further details to:

Chris Chatfield,  
41 Chequers Lane  
Walton-on-the-Hill  
Tadworth Surrey

**The test below is in no way representative of our contests which show complete aircraft, but may prove amusing and rewarding for you. (Answers on page 36)**





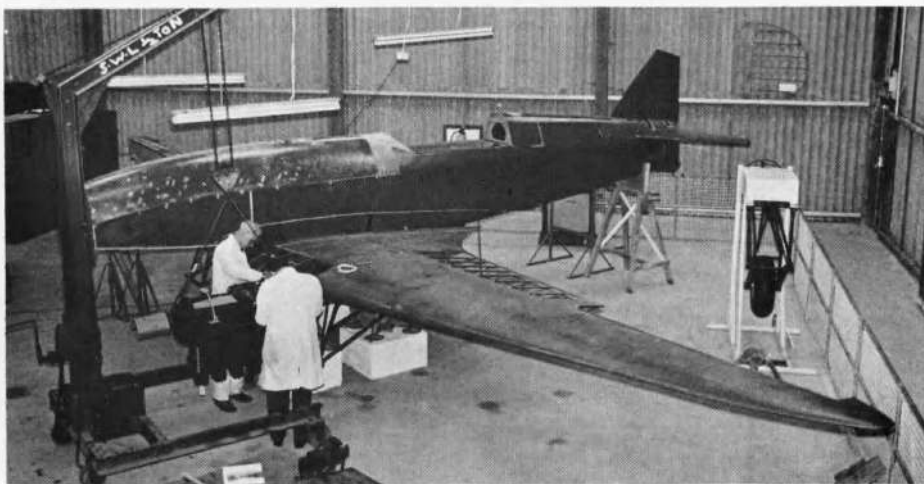


# The Shuttleworth Collection

The Shuttleworth Trust was formed and endowed by Mrs Shuttleworth on 26 April 1944 in memory of her son, Richard Ormonde Shuttleworth, who was killed while flying for the Royal Air Force during the 1939-44 War.

Richard Shuttleworth had started to collect and preserve aircraft prior to the War and examples of these were the Bleriot, the Deperdussin and Sopwith Pup which had been regularly flown at air displays. Also many of the veteran cars had been regular participants in the London to Brighton Veteran Car Run and many of the early bicycles were also in the Museum in working order. It was Richard Shuttleworth's desire that all items in the Collection should be made to work. The Collection is administered by a Board of Trustees which included shortly after the War, Squadron Leader L.A. Jackson who had worked for Richard Shuttleworth in the rebuilding of all the early aeroplanes.

The original aim of the Founder is continued today and monthly Flying Days are held from Easter to October each year to enable the public to see the aeroplanes in action in the air. This policy of flying what are in many cases,



Heading: The Collection's Bristol Boxkite (Air Portraits).  
Above: One of the on-going restoration projects is the de Havilland 88 Comet Racer G-ACSS (Shuttleworth Collection).

Below: Spitfire Vc AR501.



the sole surviving examples of a particular type comes in for criticism at times, but great care is taken in maintaining all aircraft in superb flying condition. The selection of pilots is important, and limitations of performance are strictly adhered to, often at the expense of public spectacle; but loving care is shown to all aircraft. Countless requests are made for guest appearances of aircraft from the Shuttleworth Collection at other air displays but regard has to be paid to keeping the risk to minimal proportions and many display organisers are disappointed, but appreciate the aims of the Trust.

Notwithstanding the airborne performances all aircraft are on view at Old Warden virtually throughout the year although examples of some aircraft may be absent on overhaul or restoration at other locations or on temporary static exhibition with other Collections. Nevertheless the range of exhibits is unique and *Air-Britain* is proud to have the opportunity to stage a Fly-In event at Old Warden, especially when the proceeds support the establishment of further hangar space for even more exhibits.

# The Pleasure Flying Aircraft

## de Havilland DH 60G Moth c/n 1917 G-ATBL

One of the last DH 60G Moths to be built, this was delivered new in March 1933 to Werner Stocklin, the de Havilland agent in Switzerland. Powered by a Gipsy I engine, it became CH-353 and was re-registered in 1935 as HB-OBA, flying regularly until the early 1960s and spending most of the post-war years at Lausanne. In February 1965, the Moth was flown to the UK and in March was registered as G-ATBL to Edward Eves at Baginton. Subsequently moving to Sywell, Mr Eves sold the Moth to Cliff Lovell in November 1969 and the new owner completely rebuilt it prior to its obtaining the first renewal of its Certificate of Airworthiness on 25 September 1971. Sold to Tony Haig-Thomas in May 1972 and hangared for many years in the Southend Museum, it later moved to Duxford where it is now owned by Mike Vaisey.



Cliff Lovell took Gipsy Moth G-ATBL to a display at Booker on 26 September 1971, just a day after it acquired a new Certificate of Airworthiness (M P Fillmore)

## de Havilland DH 83 Fox Moth c/n 4069 G-ACEJ

Built to the order of the Scottish Motor Traction Co Ltd, Renfrew and delivered to them in May 1933, this Fox Moth was known to have been with the Norfolk and Norwich Aero Club by 1935. It was sold in 1936 to Giro Aviation Ltd who flew it from the sands at Birkdale, near Southport, Lancashire. Stored during the war, its Certificate of Airworthiness was renewed in June 1946 when it recommenced joy-riding from the beach. Norman Jones of the Tiger Club at Redhill acquired it in June 1966 and it became a regular display visitor with the Club until sold to Tony Haig-Thomas in October 1972.



Sporting the Tiger Club motif on its fin, Fox Moth G-ACEJ at Redhill on 24 March 1967 (Malcolm Fillmore).

## de Havilland DH 82A Tiger Moth c/n 85265 G-AGYU

Built for the Royal Air Force as DE208 and taken on charge at 46 MU Lossiemouth on 2 January 1942, this Tiger Moth was issued to Holme-on-Spalding-Moor Station Flight on 12 July 1942. It moved to Wickenby on 25 May 1943 and to 3 Flying Training School at Shellingford on 21 July 1944. After a minor accident on 19 September 1945 it was 'adopted' by Marshalls of Cambridge on 6 January 1946 and bought by that company shortly after. One of the very first aircraft to give civilian training after the war, it was registered G-AGYU on 10 January 1946 and certified in April. In February 1963 it was transferred to the Cambridge Aero Club and in May 1966 to the Essex and Suffolk Gliding Club at Ipswich. It was purchased by Tony Haig-Thomas in June 1971.



Tiger Moth G-AGYU during its period with Essex and Suffolk Gliding Club but retaining its Marshalls livery (via M P Fillmore).

## de Havilland DH 80A Puss Moth c/n 2184 G-AEOA

Built in 1931, this Puss Moth was delivered to T & A Bata at Zagreb, Yugoslavia on 29 July 1931, as UN-PAX, and used for communications flying. Re-registered YU-PAX in 1935, it was delivered back to the UK in October 1936, probably in part exchange for DH 85 Leopard Moth G-AENB. Registered G-AEOA by Airwork Ltd, the Certificate of Airworthiness was renewed in April 1937. Prior to World War 2 it was owned by S H Hardy and A Harrison (from October 1938) and W H Leadbetter (May 1939) and it was put into storage at the commencement of hostilities. In May 1941 it was impressed into the Royal Air Force and as ES921 was used by the Air Transport Auxiliary at White Waltham. On 5 June 1943, after overhaul, it was operated by 5 Group Communications Flight, Swinderby and from 10 December 1943 by 1660 HCU, Swinderby.

Transferred to storage at 5 MU, Kemble on 3 May 1945, it was sold to Squadron Leader RJ Jones in December and restored as G-AEOA on 1 February 1946. The Certificate of Airworthiness was renewed on 6 June 1946 and ownership passed to R L Whyham at Squires Gate, Blackpool on 30 September 1946. Nominal changes took place on 2 December 1946 (to Whyham & Bellamy Air Transport Ltd) and on 16 October 1947 (to Air Navigation & Trading Co Ltd) but on 2 February 1949 it was registered to Speedbird Flying Club, the predecessor to Airways Aero Associations Ltd. On 17 December 1949, the Puss Moth was delivered back to Squires Gate for storage and ownership reverted to Air Navigation and Trading in August 1952.



Puss Moth G-AEOA, as delivered to Bata with early Yugoslav marks UN-PAX (via M P Fillmore)

By 1958 the Puss Moth had moved, by road, and it was reported as being with Doug Bianchi at White Waltham in April and in the following month it was at Romsey in Hampshire. In 1964 Mr T Dance was rebuilding it at Southampton University and, nearby, in June 1967 Dr John Urmston re-registered it to himself during the rebuilding process. It eventually flew again on 11 September 1968 and the Certificate of Airworthiness was renewed on 24 October. Sold in August 1973 to Tony Haig-Thomas and initially kept at Southend, G-AEOA moved to Old Warden a few years ago.



## de Havilland DH 90 Dragonfly c/n 7526 G-AEDU

Built in 1936 for the Portuguese East African airline DETA, it was delivered as CR-AAB with a Certificate of Airworthiness issued on 14 October 1936 and flown in airline service until sold in South Africa in 1961. On 27 September 1961, A G Mechin registered the Dragonfly as ZS-CTR and it was based at Johannesburg. Withdrawn from use at Baragwanath in August 1974, it remained in storage and was apparently bought by an American who intended to rebuild it and fly it to the USA. These plans fell through and in June 1979 Tony Haig-Thomas and Martin Barraclough bought the aircraft and it was shipped home to Hatfield. The dismantled airframe later moved on to Cliff Lovell's workshop at Walkeridge Farm where it has been painstakingly rebuilt over the last two years. The registration G-AEDU was originally allocated to Dragonfly c/n 7509 which instead became G-ADXM.



The rebuild of Dragonfly G-AEDU was not completed in time for a photograph to be included here but G-ANYK, seen at Kidlington in 1961, is representative of the marque (Bernard Martin)

## de Havilland DH 89A Dragon Rapide c/n 6746 G-AGTM

Built for the Royal Air Force as Dominie NF875 and delivered to 18 MU at Dumfries on 26 May 1944, the aircraft was not issued to a Service unit but was shipped to Haifa on 5 September 1945 for use by the Iraq Petroleum Co. Registered G-AGTM, it served in Haifa until April 1953 when it was sold to the Arab Contracting and Trading Co, Beirut, Lebanon as OD-ABP. Subsequently, in 1962 it was transferred to Jordan as JY-ACL, until 1964 when it was purchased on behalf of the Army Parachute Association and returned to the UK in March 1964. Restored as G-AGTM, it was based at Netheravon and named Ballykrie. Transferred in March 1967 to the Parachute Regiment Free Fall Club, it returned again to Netheravon in November 1968. In May 1975 it was replaced and remained stored until purchased by Martin Barraclough in March 1978. Restored in Royal Navy colours, it is now based at Duxford.



Rothman's support for the Army Parachute Association is shown by their blue and white livery and motif on Rapide G-AGTM at Blackbushe on 9 September 1966 (via M P Fillmore).

## de Havilland DH 94 Moth Minor c/n 94014 G-AFNG

Registered to Cambridge Aero Club in May 1939, it was delivered in July and thus had a few brief months of flying before being grounded at the outbreak of World War 2. In June 1940 it was impressed as AW112 and, after initial storage, was used by Binbrook Station Flight from July 1942 and Wyton Station Flight from March 1943. Returned to store in July 1943, it was briefly operated by EAAS Manby from May 1945 to January 1946 and was then sold to Flight Lieutenant D G S Cotter who restored the aircraft to the Register in May 1946 and overhauled it in November of that year. Stewart Burt became the owner in July 1947 and it was based at White Waltham and Fair Oaks until November 1958, having been converted from open cockpit to coupé version in July 1953. A succession of owners followed – Blackpool and Fylde Aero Club from November 1958; W D Bircher, May 1959; A J Morgan, November 1960; T J Pegram, May 1962. Tony Haig-Thomas



Moth Minor G-AFNG at Redhill (M P Fillmore).

bought the Moth Minor in June 1968 and, although he sold it to A J Baggaley in January 1969, he bought it back in May 1972 and, recently fully restored, it now lives at Old Warden.

## North American Harvard c/n 88-14722 G-JUDI

G-JUDI was originally built for the US Government, with serial 41-33888 allocated. However, it was earmarked for delivery to the UK under Lend-Lease arrangements. It was taken on Air Ministry/RAF strength as EX915 en route from the USA direct to South Africa on 28 September 1943 for use by the South African Air Force under the Commonwealth Air Training scheme. Soon after arrival it received SAAF serial 7439. Actual use with the SAAF is not known but it was shown on the South African Census of 1 October 1945 and officially taken on charge by the US Government again on 13 May 1947, together with 119 others, but donated to the SAAF on the same date at the termination of the Lend-Lease arrangements. Later it left service and was sold or given to the Portuguese Air Force in 1970/71 and allocated serial 1502 and seen as such in open storage at Alverca in May 1972. In 1978 Euroworld (UK dealers in aircraft) acquired a number from the Portuguese and it was registered as G-JUDI to Norfolk Aerial Spraying Ltd on 17 November 1978. It was delivered to Biggin Hill on 29 November 1978 and overhauled and re-painted to represent RAF FX301 wearing fuselage Squadron Code letters FD-NQ. The reason for the out-of-sequence UK registration arises from the fact that Wallace Cubitt, the proprietor of Norfolk Aerial Spraying at Foulsham Aerodrome has a wife named Judy! The Central Flying School markings were completed and a maiden flight made on 17 March 1979. On 10 January 1980 it was re-registered to the present owner Tony Haig-Thomas and based at Duxford.

The real FX301 was not an AT-6D Harvard III like G-JUDI but an AT-16 Harvard IIB, the principal external difference being a differently



Harvard G-JUDI at Redhill in 1980 (J C Cook)

shaped canopy. Constructor's No 14A/1604 ordered from Noorduyn Aircraft and allocated USAAF serial 43-34718 it was in fact cancelled and either taken-over by the Canadians themselves under a sort of Lend-Lease or a direct purchase by the UK. In any event it was taken on strength as FX301 on 13 April 1944 aboard the SS British Renown being assigned to No. 3 FIS on 31 July 1944. It went to No. 7 FIS on 20 May 1945 and shown on Home Census 21 March 1946. It was classified Category AC due to a taxiing accident on 11 November 1947 and repaired on site by Air Service Training between 31 December 1947 and 5 February 1948, although it was assigned on paper on 2 February 1948 to the Central Flying School with whom it arrived wearing the code FD-NQ. It was still on CFS strength at the Census of 31 August 1950 but suffered a flying accident on 26 April 1951 and was declared Category 5S and finally struck off charge on 17 May 1951. Photographs of FX301 have appeared in various aviation journals and no doubt spurred on the painting of EX915 as such.

# Display Aircraft

## Beechcraft D.17S c/n 6869 N18V

From its formation in 1932 by Walter H. Beech, this Company has the distinction of having produced at least two types of aircraft known to the general public. The most famous is the V-tailed single engine Bonanza, still available today, and the other is the Staggerwing. The latter name was applied popularly to the D.17 4-5 seat light transport biplane due to the somewhat unconventional layout of the top and bottom mainplanes—the latter set ahead of the top wings. It was produced in some numbers for the United States Army Air Force and Navy with the type designation C-43 and GB-1 and GB-2. Thirty machines were also supplied under Lend-Lease to the Royal Navy where it was given the name Traveler (US spelling).

N18V has the Constructor's No.6869 and started life with the USAAF serial 44-67763. It then transferred to the US Navy with BuAer No 32869. In May 1946 it was given a US civilian registration NC18 (under its Navy type designation GB-2) with the US CAA until cancelled on 2 September 1948 and re-registered NC13V. Later re-registered as N18V it arrived at Duxford towards the end of 1979 initially wearing a silver and red trim colour scheme. Last year, however, it was redecorated in the colours of an example familiar in the UK both prior to and during WW2 with serial DR628.

DR628 the machine that N18V now represents under the operation of Rob Lamplough was a YC-43 with Constructor's No.295 and was initially allocated USAAF serial 39-139. Based at Hatfield pre-War it



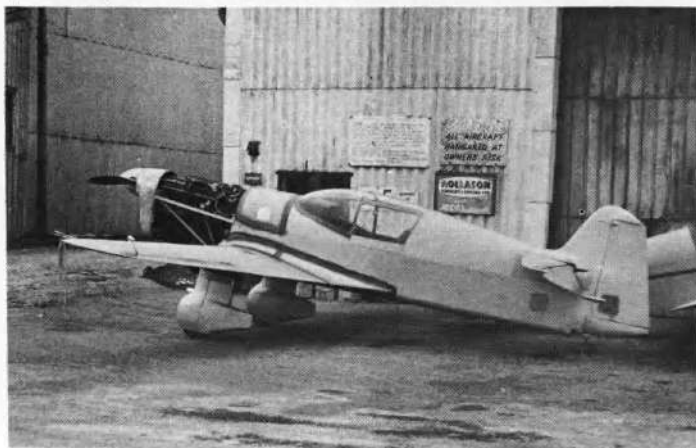
Beech D17S Traveler N18V at Duxford (Alan Johnson)

was allotted to the American Embassy and was the mount of the US Military Air Attache, Brigadier-General Martin F. Scanlon. On 1 May 1941 it was Impressed by the RAF (a fate that overcame many civil aircraft current at that time) and given serial DR628 and attached to the Allied Flight of No.24 Squadron. Used for VIP Communications duties it was often personally flown by HRH Prince Bernhard of the Netherlands. After the War it was returned to the USAAF and later appeared in the USA with civilian registration NC91397. It returned to the UK in 1950 and was placed in storage at Lympne. A year later it was purchased by Commercial Air Services Ltd and registered as G-AMBY and a UK Certificate of Airworthiness issued on 27 July 1951. On 15 August 1951 it departed from Croydon en route to new owners at Kumalo, Southern Rhodesia and re-registered there as VP-YIV. Later it was re-registered in the Northern Rhodesian sequence VP-RIV. Even later it reverted to the marks VP-YIV but in August 1972 was sold in South Africa where it remains current to this day as ZS-PWD with owner P.W. Dahl at Messina.

## Percival E.2 Mew Gull B G-AEXF

The success of the Percival Gull both as a touring aircraft and in Air Races led Edgar W. Percival, its designer, to consider just what could be achieved with a purpose-built racer. Thus was born the Mew Gull which flew in prototype form in March 1934. This, the E.1 Mew Gull, was followed in 1935 by the E.2 version, virtually an entirely new aeroplane (but carrying the same registration marks G-ACND as the first). G-AEXF which exists today was in fact the third E.2 Mew Gull to be constructed and was built to the order of South African pilot Major A.M. Miller as a mount for the 1936 Air Race to Johannesburg starting from Portsmouth on 29 September 1936. Allocated the South African registration ZS-AHM and named 'The Golden City' it received a Certificate of Airworthiness on 11 September 1936. Three Mew Gulls were initially entered for the Race but one, G-AEKL with Tom Campbell-Black aboard was hit by a Hawker Hart on the ground at Speke on 19 September 1936 wrecking the aircraft and killing the pilot. ZS-AHM was joined by ZS-AHO named 'Baragwanath' but neither finished the Race. The engine of ZS-AHM was damaged when inadvertently filled with low-grade fuel after force-landing some 30 miles from Belgrade and the highly-tuned Gipsy Six engine would not take this treatment. After return to England Major Miller sold the aircraft to Alex Henshaw and it was registered as G-AEXF. After a number of successful races Essex Aero Ltd of Gravesend replaced the Gipsy engine with a Gipsy Six R high-compression taken from the DH.88 Comet racer G-ACSS. After the Manx Derby in June 1938 G-AEXF was further modified at Gravesend by cutting down the rear decking and lowering the cockpit among other means to reduce the drag and gain precious extra speed. Further race victories and long-distance record flights to the Cape are aviation legend as well as history but the final pre-war activity was the Isle of Man Air Race flown on 27 May 1939 from Hatfield to Ronaldsway

At Redhill on 18 February 1978, Mew Gull G-AEXF, rebuild almost completed (J.G. Ewen).



At the Croydon Airport Show on 5 May 1980, the familiar cooling towers in the background (J.C. Cook)

when Alex Henshaw achieved second place. In July 1939 G-AEXF was sold in France to Victor Vermorel and moved to a base near Lyons. During the War somehow G-AEXF survived and ended up in the hands of Jean Drapier at Bron. Discovered by an Englishman, Hugh Scrope, it was inspected by Doug Bianchi of Personal Plane Services and flown home to Blackbushe on 2 July 1950. Its re-acquaintance with air racing came on 16 September 1950 in the *Daily Express* race from Hurn to Herne Bay. In August 1951 it suffered damage when landing at Shoreham and the engine was removed and the remains returned to Blackbushe. In 1953 it was acquired by Nat Somers and placed in the care of Doug Bianchi at White Waltham. During this rebuild the virtually flat canopy was raised to give some forward visibility and it raced again in the Kemsley Challenge Trophy at Southend on 20 June 1953. Later that year it was bought by Fred Dunkerley who asked Adie Aviation at Croydon to modify the canopy even further, destroying the sleek lines but at least allowing a good forward view. Peter Clifford flew it for the owner in the 1955 King's Cup Race at Baginton proving that it had lost none of its performance by winning the Race. It competed again in the same event two years later. It then went into storage at Barton and was resurrected on 29 October 1962 to fly to Yeaddon for fitting of a Gipsy Queen 2 engine removed from Proctor G-ALFX. A further canopy was fitted and following a landing accident was fitted with a Magister undercarriage by Harold Best-Devereux's company. It finally appeared in the National Air Races in August 1965 but during practice on 6 August it force-landed near Catterick after an engine failure and was damaged beyond economical repair. Following this it passed into the hands of various quasi-preservation bodies and fell into disrepair. However in 1972 the sad wreckage, for that is what it had become, was acquired by Martin Barraclough and Tom Storey for a painstaking rebuild at Coolham in Sussex. Rebuild is perhaps a slight understatement since the current G-AEXF is really a completely new aeroplane and arrived at Redhill early in 1978 for test flying. Since then it has been successfully completed and as well as indicating the excellence of the restorers efforts provides a living memory of one of the great types of all time.



## Great Lakes 2T-1A Sport Trainer c/n 57 G-BIIZ

The Great Lakes Company was originally founded on 2 January 1929. Among its designs was a biplane trainer known as the Sport Trainer. Over 200 were produced prior to the Second World War with a variety of engines denoted by a particular designation. The 2T-1 had a 80hp US-built Cirrus III, the same designation was also applied to those with 125hp Menasco, the 2T-1A with 85hp Cirrus and the 2T-1E with 95hp Cirrus Hi-Drive. After the War a scaled-down version of this biplane was designed and produced in kit or plan form by Andrew Oldfield and known as the Oldfield Baby Lakes. Several home-builders are working on such designs in the UK. In the early 1970s the Great Lakes Aircraft Company as Oldfield's firm was known, gave thought to putting the original full-sized Great Lakes Sport Trainer back into limited production. Initially, completed fuselages, wing ribs, fuel tanks and tail units were produced and made available to amateur constructors for completion. By 1973 the new Company at Wichita, Kansas started complete production and some 100 are still active in the USA powered by a Lycoming O-290 or O-320 engine. Production of this 2T-1A-2 variant

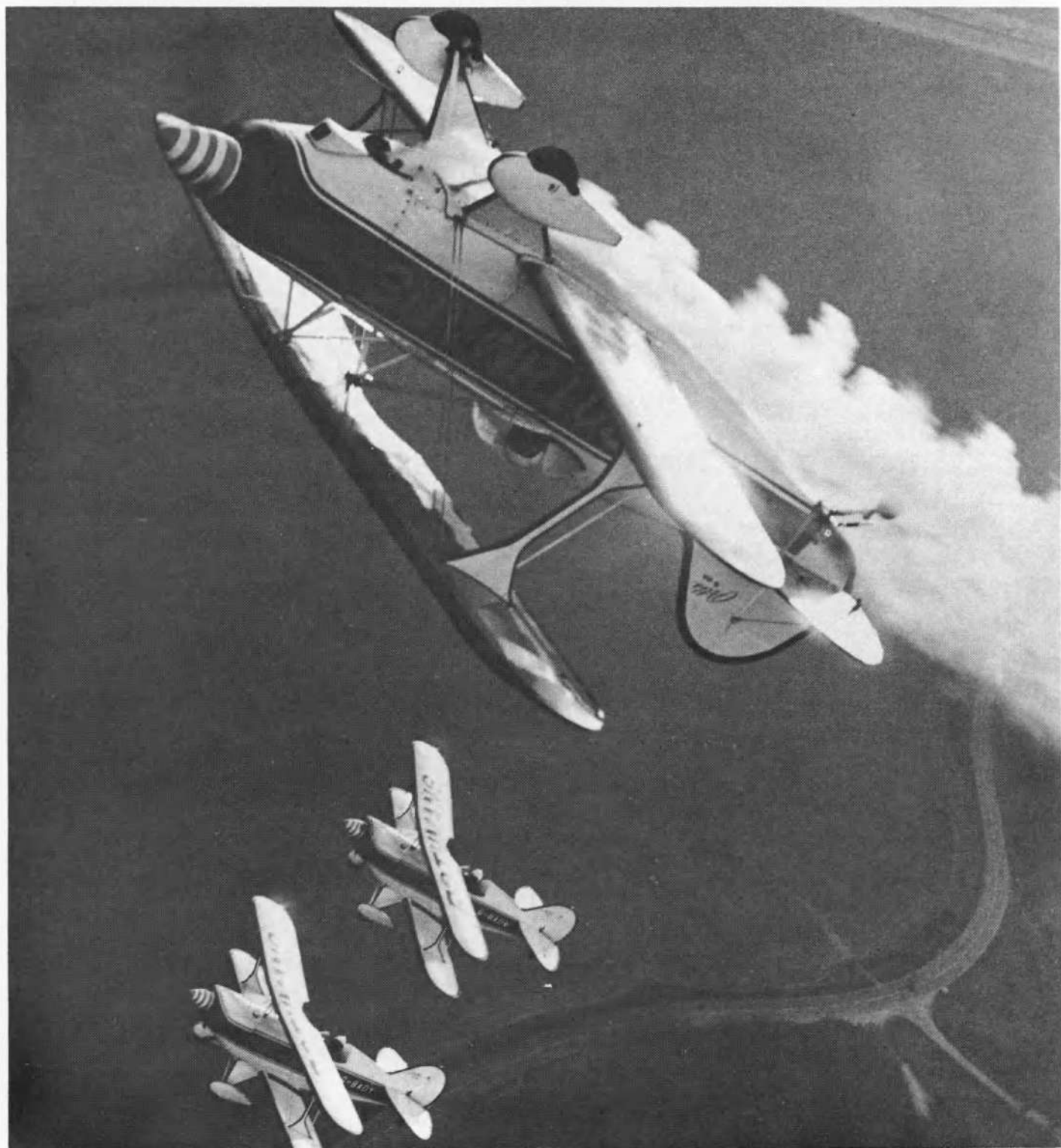
*Rothman's Pitts Special team in action (Rothmans).*



*The Honourable Patrick Lindsay's Sport Trainer G-BIIZ at Booker (Alan Johnson)*

ended again in 1978. Of the original versions about 60 survive, mostly in the USA but now powered by a variety of engines including the Warner Scarab radial, Kinner R-540 radial, Continental O-470 and Lycoming O-290 and O-435.

G-BIIZ owned by the Hon. Patrick Lindsay and housed at Booker was imported towards the end of 1980 and started life on the US Register as NC603K and later N603K until given UK marks officially on 1 April 1981. The Constructor's No is 57.





# 1921... The Race

It is necessary to thumb our way back through copies of *Flight* until we reach Page 471 in the 14 July 1921 edition where the following statement may be found:

'Starting just before the dispatch of the first of the machines in the Derby, a race will be flown at Hendon on July 16 between three machines from each of the Universities.'

The Derby referred to the Sixth Aerial Derby at Hendon Aerodrome and the Universities were, of course, Oxford and Cambridge.

The Varsity boat-race had been an annual event on the River Thames in London since 10 June 1829, interrupted only by the Great War. The first post-War boat-race in 1920 produced a Cambridge victory and gave an idea for revenge to A.R. Boeree who was reading for a degree at Oriel College, Oxford University preparatory to converting from a Martlesham test pilot to a Schoolmaster.

At this time both major Universities contained many ex-Service pilots studying for degrees to aid their assimilation into civilian life. One major obstacle, however, for Boeree was a lack of enthusiasm for flying by the powers that be at Oxford, in fact quite an antagonism towards this new technology. Cambridge University was more enlightened and had in their midst one Oliver E. Simmonds (later Sir) who led their thriving

University Aeronautical Society. This worthy gentleman was part of the Vickers-Supermarine design team and in 1928 went on to produce the well-known Spartan biplanes as an independent concern.

Nevertheless, enthusiasm built up in spite of these obstacles (Haydn Tebb being appointed Secretary to the Oxford team) and each University set about sifting applications from ex-Service pilots proficient on the SE.5A aircraft. The choice of this type as a mount stemmed from the generosity of the Royal Aero Club in funding the provision of six RAF-surplus machines, to be split between the teams.

These aircraft were acquired as surplus by the Aircraft Disposal Co. Ltd of Croydon who had recognised the potential of this highly stable and simple-to-fly machine in reconditioned form for overseas air arms or as a sporting civilian machine.

The Varsity Air Race of 1921 was flown around part of the route of the Aerial Derby circuit utilising the 4th and 5th turning points of the total circuit. After take-off from Hendon the initial route was to Epping where the landmark was the Church Tower in the centre of the village

*Above: SE.5A G-EAXT, flown by R K Muir for Cambridge (Flight). Below: G-EAXV was the mount of A R Boeree of Oxford (Oliver Tapper via Richard Riding)*





on the Western side of the London Road—taking care to avoid the 120ft high water tower some 200 yards to the South. From there a run of about 11 miles took participants to Hertford where a large white cross was laid out in Hartham Meadow to the North of the town, adjoining the railway station. From there a South-Westerly heading took aircraft the 16 miles back to Hendon. The Race comprised three laps of this circuit totalling some 129 miles.

Thus the line-up at Hendon on 16 July 1921 was as follows:

Registration	Race No.	Team	Pilot (College)
G-EAXT	26	Cambridge	R.K. Muir (St. Catherines)
G-EAXU	30	Cambridge	W.S. Philcox (Caius)
G-EAXV	25	Oxford	A.R. Boeree (Oriol)
G-EAXW	29	Oxford	N. Pring (New)
G-EAXX	32	Cambridge	H.A. Francis (Caius)
G-EAXQ	31	Oxford	A.V. Hurley (Keble)

Reserve pilots for Cambridge were C.O.B. Beale, I.A.J. Duff & S.H. Starey all of Trinity College and for Oxford comprised S.M. Brown, J.A.I. Hardman & A.S. Hett of B.N.C., Hertford & Oriol Colleges respectively.

Reserve aircraft were G-EAXS (Race No.28) and G-EAXR (Race No. not recorded) with the former flown by Flight Lieutenant W.H. Longton in the Sixth Aerial Derby later that day.

The Race became somewhat of a whitewash for Cambridge with the creator of the whole idea, A.R. Boeree, miscalculating his take-off and having to re-cross the starting line and N. Pring suffering ignition lead problems and having to force land near Enfield. The final result table was as follows:

Pilot	Position after last lap
W.S. Philcox	First
R.K. Muir	Second
H.A. Francis	Third
A.V. Hurley	Fourth
A.R. Boeree	Fifth
N. Pring	Failed to finish

G-EAXU of the Cambridge team went on to be flown in the Aerial Derby by F.J. Ortweiler who was also the University team coach.

Individual aircraft details were as follows:

Registration	Former RAF Serial	C of A issued	Fate
G-EAXQ	F5249	14.7.21	Regn Cld 13.11.22 Scrapped
G-EAXR	F5303	9.7.21	Regn Cld 17.7.22 Scrapped
G-EAXS	F5285	8.7.21	Regn Cld 17.7.22 Scrapped
G-EAXT	F5258	9.7.21	Regn Cld 13.11.22 Scrapped
G-EAXU	F5333	14.7.21	Collided with Martinsyde F.4 G-EAXB at Croydon 17.4.22 on landing during Whitsun Race meeting.
G-EAXV	F5253	9.7.21	Regn Cld 17.7.22 Scrapped
G-EAXW	F5259	8.7.21	Regn Cld 13.11.22 Scrapped
G-EAXX	F5257	14.7.21	Regn Cld 17.7.22 Scrapped

All were built for the RAF by Martinsyde Ltd at Brooklands.



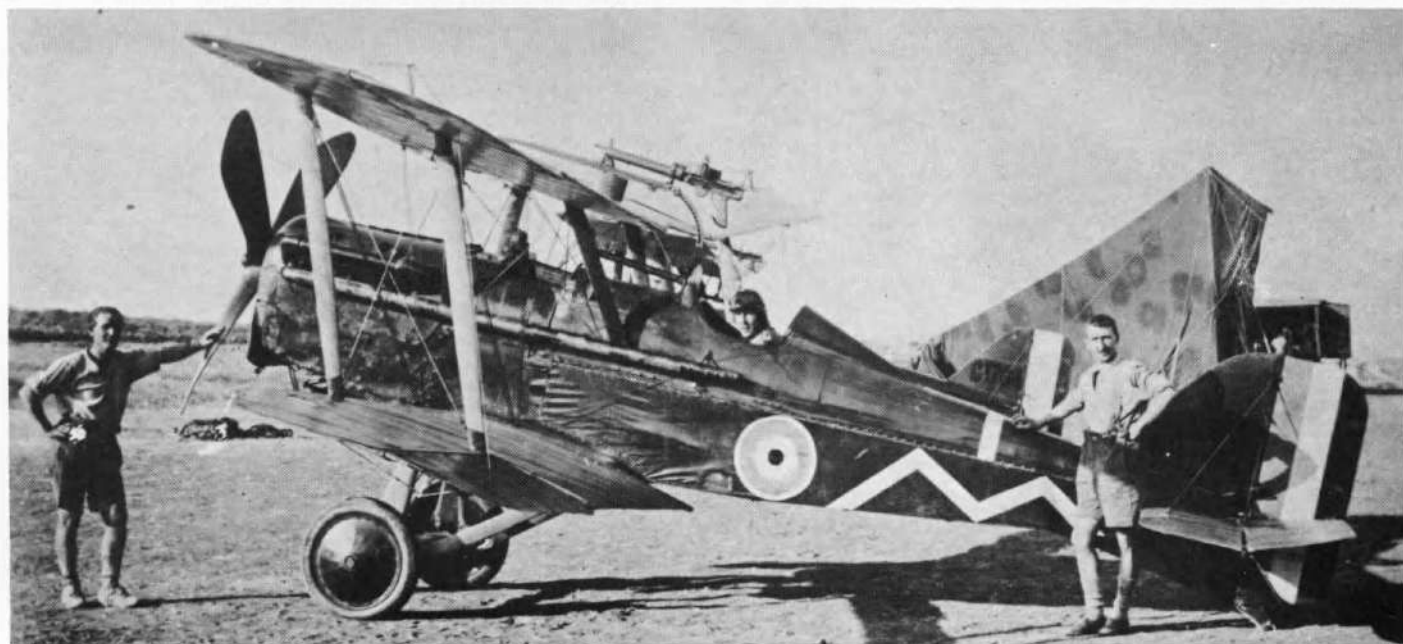
SE5A of No. 85 Squadron at St. Omer, 21 June 1918 (IWM)

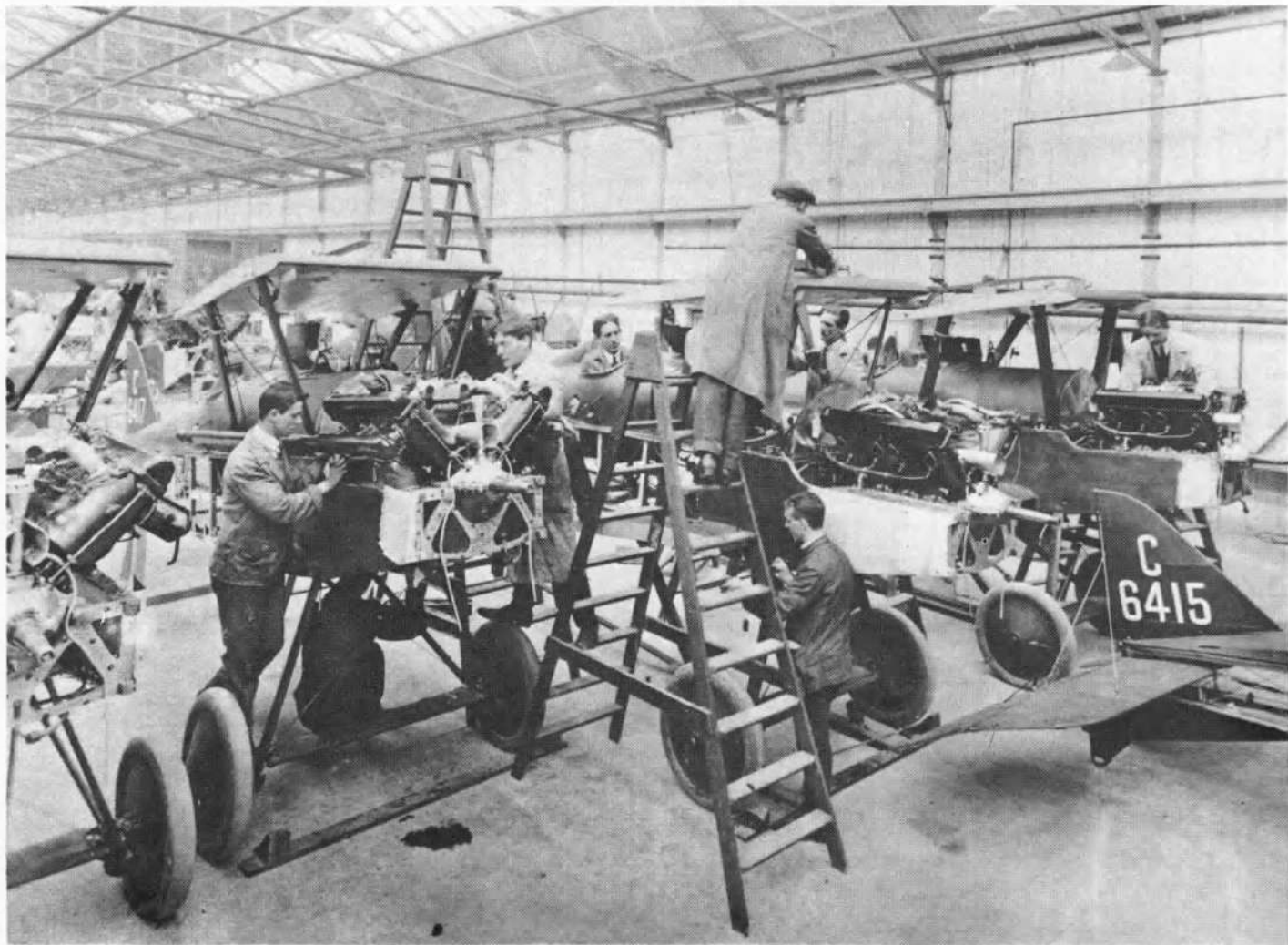
## The Aircraft

The SE.5A was designed in 1916 at the Royal Aircraft Factory, Farnborough by H.P. Folland. It was derived from the original SE.5, built around a new French 150 hp engine appearing from Hispano-Suiza in 1915, by the Farnborough team as a small single-seat fighter (or Scout in that era).

First deliveries were to No.56 Squadron in March 1917 at London Colney, where after a brief working-up spell the Squadron moved to France, flying patrols over the Western Front until August of that year. At this time No.60 Squadron also received the type in France for fighter and ground attack duties for the rest of the War.

SE.5A of No. 111 Squadron, almost certainly in Palestine (IWM A1875)





SE.5A's under construction (IWM Q69615)

Reverting to 1916, the Hispano-Suiza engine was further developed and a geared version produced 200 hp. One of the SE.5 prototypes was re-fitted with the new engine and thus became the SE.5A. This was produced in quantity, not only at Farnborough, but by The Austin Motor Co. (1914) Ltd. at Birmingham, The Air Navigation & Engineering Co. Ltd. at Addlestone, Martinsyde Ltd. at Brooklands, Vickers Ltd. at Crayford and Weybridge, and Wolseley Motors Ltd. at Adderley Park, Birmingham.

The SE.5A served with many RAF Squadrons during World War 1, mostly in France and the Middle East. A summary of Squadron use was as follows:

Sqdn	Period	Location	Sqdn	Period	Location
1	Jan 18-Mar 19	France	17	Dec 17-Apr 18	Greece
24	Dec 17-Jan 19	France	29	Apr 18-Aug 19	France
30	Jan 19-Feb 19	Baghdad	32	Dec 17-Mar 19	France
40	Oct 17-Jun 19	France	41	Nov 17-Jan 19	France
47	Nov 17-Apr 18	Macedonia	50	Nov 18-Jun 19	Bekesbourne
56	Jun 17-Jan 20	Bekesbourne, then to France, later to Bircham Newton	61	Jan 18-Oct 18	Belgium
60	July 17-Feb 19	France	68	Jan 18-Feb 19	France
64	Mar 18-Dec 19	France	(Re-designated No.2 Squadron Australian Flying Corps during this period)		
72	Mar 18-Feb 19	Mesopotamia	85	Aug 17-Feb 19	France
74	Mar 18-Jul 19	Northolt and then to France	92	Jun 17-Aug 19	France
84	Aug 17-Aug 19	France	94	Jun 18-Jun 19	France
87	Sep 17-Apr 18	Upavon	(No operations)		
93	Sep 17-Oct 18	Chattis Hill	143	Feb 18-Summer 18	Throwley, Kent
(No operations)			(No operations)		
111	Oct 17-Feb 19	Palestine & Syria	150	Apr 18-Dec 18	Macedonia
145	Jun 18-Apr 19	Egypt & Palestine			

After the War an obvious civilian market was waiting to be tapped and in May 1920 the Aircraft Disposal Co. Ltd at Croydon converted a RAF example, F9022, for civilian use, aimed at marketing at £700 each. Airdisco was in fact the sole owner of all surplus aircraft made available from the Aircraft Disposals Board, some 10,000 machines, under the guidance of Frederick Handley Page and his brother, Theodore, who were two of the Directors of Airdisco.

The first conversion became G-EATE and was followed by the eight machines already described for the Air Race. The first truly privately-owned machine was G-EAZT for Dr. E.D. Whitehead Reid at Bekesbourne Airfield in Kent. Later eleven other Airdisco conversions followed.

No review of the SE.5A would be complete without making mention of Major Jack C. Savage who was responsible for conversion of 29 unused aircraft (made by Vickers, Austin and Wolseley) into skywriting configuration. G-EATE was first acquired and after conversion, demonstrated black smoke skywriting flown by Cyril Turner on 30 May 1922. Aerial advertising was permissible in that era and cigarettes, soap-powders and cars were the first products to be regularly inflicted upon the public of the day. Eight aircraft were chartered for similar use in the USA and others were used on the Continent, particularly in Germany.

In more recent years, film companies striving for reasonable realism in their World War 1 epics have contracted for the building of SE.5A replicas; two were built for *Blue Max* and six for *Darlin' Lil*. The Blue Max machines were full-size replicas constructed under the eye of George Miles at Shoreham by Miles Marine & Structural Plastics Ltd as G-ATGV and G-ATGW, later re-registered in Ireland for actual filming. The later batch of six were 0.83 scale replicas based on Currie Wot aircraft, but externally transmogrified to resemble the SE.5A. Initially registered G-AVOT to G-AVOY for ferrying to Ireland they were built by Slingsby Sailplanes Ltd in 1967 at Kirkbymoorside and became EI-ARRH to EI-ARM on arrival, although obviously wearing RAF colours and serials for the filming. After their intended use they were subsequently utilised for other films as well as certain TV commercials, which involved the clothing of some in wallpaper coverings!

#### References

- In compiling the review of the Race and SE.5A aircraft the following sources have been consulted:
- Flight* journals for 14 and 21 July 1921
  - The British Civil Aircraft Registers 1919-28* (Peter Moss-Air-Britain 1969)
  - British Civil Aircraft since 1919 Vol.3* (A.J. Jackson-Putnam 1974)
  - British Aviation—The Adventuring Years* (Harald Penrose-Putnam 1973)
  - Aeroplane Monthly* for December 1973 (The Aerial boat-race-Arthur Ord-Hume)
  - The Squadrons of the RAF* (Jim Halley—*Air-Britain* 1980)
  - The Shuttleworth Collection Catalogue* (June 1969 Edition)



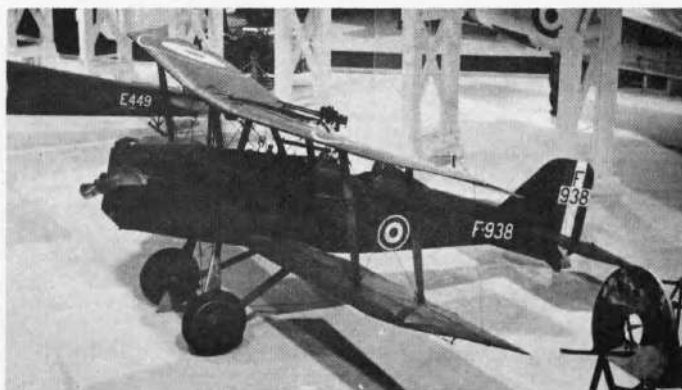
## The Survivors

Of the real aircraft, three remain extant to this day, all on public view. Coincidentally they are all former skywriting examples and were originally consecutively registered as G-EBIA, G-EBIB and G-EBIC.

G-EBIA, Constructor's No. 654, was the former Wolseley-built RAF F904 which first received a C of A on 15.1.24 and was eventually withdrawn from use in February 1928. From then until 1956 it was stored at Whitley (the former Armstrong-Whitworth factory) until rescued. The Royal Aircraft Establishment (successors to the original Royal Aircraft Factory site at Farnborough) undertook major restoration



The Shuttleworth Collection's SE.5A F904 at RAF Abingdon on 15 June 1968 (M P Fillmore collection)



G-EBIC at the RAF Museum, Hendon in November 1972, masquerading as F938 (M P Fillmore collection)

work in 1957 with the help of volunteer staff and apprentices. On 4 August 1959 it flew again, painted as D7000 (to represent one of a batch of 50 built at Farnborough). It was later reunited with correct serial F904 and now flies regularly with the Shuttleworth Collection at Old Warden.

G-EBIB c/n 688 and G-EBIC c/n 687 originally F938 and F937 are exhibited (with reversed identities) respectively at the Science Museum, South Kensington and at the RAF Museum, Hendon.

All of the Slingsby-built replicas survive in Ireland at Powerscourt, albeit in unairworthy condition, but both the 1965 Miles-built machines suffered accidents (parts of the first example may still remain).

# 1981... Navex

The idea for a Commemorative Race came during the early planning of the 1981 Fly-In at the end of the Summer of 1980. Following the success of the 1980 Fly-In with the magnificent KZ attendance, it was felt that there ought to be some theme for our 1981 event. Among the suggestions for anniversaries of aircraft types or events was one that the Oxford & Cambridge Air Race would see its Diamond Jubilee. With the knowledge that the event had never been repeated officially, your Organiser grasped the nettle and approached the Ministry of Defence for possible approval of University Air Squadron involvement. At the early stages it was also hoped to try and resurrect the surviving SE.5A replicas in Ireland, but in the event this proved to be a non-starter and the Race settled into just the UAS Bulldogs.

After some agonising delay, while the official powers-that-be gave the idea due consideration, Support Command gave their approval several months into 1981, but once given, the UAS HQ at RAF Cranwell and both local UAS units acted with commendable speed. The fact that the time of the year allocated to our event was also standard UAS Summer Camp time, when all units moved around the UK for maximum training, was just another obstacle to be overcome, but in the event has proved no great problem and we in *Air-Britain* are grateful for the Oxford team coming down from Binbrook and the Cambridge team travelling from Turnhouse for the day.

The Race is not, strictly speaking, a race at all, but a low-level navigation exercise, starting and finishing at Old Warden. Consequently, there are no standard racing pylons at the Race turning points. Instead, each pilot will plot his own course to take in the nominated reference points. The route after take-off at Old Warden first takes the teams to the former RAF airfield at Little Horwood, avoiding the built-up areas of Bletchley and Milton Keynes, and thence to another former airfield (and one-time potential Third London Airport) at Wing. Avoiding Leighton Buzzard the route then overflies RAF Henlow and on to Bassingbourn. Here a Northerly heading is assumed for another disused airfield at Gransden Lodge where a turn is made back on track for Old Warden.

Before the Race commences, the Team Captains will toss for pole position at the start and then each Bulldog will take-off at 2-minute intervals, alternately from each team. Each pilot will be accompanied by a Qualified Flying Instructor from the opposing team in order to ensure fair play. Also, on the ground at each reference point will be a small team of observers to ensure that each aircraft correctly passes the point and does not cut the corners of the course. The time of each Bulldog from the dropping of the Starter's flag to the arrival over the finish line will then be logged and the lowest aggregate score will decide the winning team who will receive the *Perrier* Trophy.

## The Aircraft

The Bulldog is described in detail elsewhere, but the UAS individual aircraft will be chosen from the following:

### Oxford University Air Squadron (based at RAF Abingdon)

Serial No	Code	c/n	
XX526	C	212	First flight at Prestwick 10 May 1973. Initially delivered to No.2 FTS Little Rissington with Code 8 on 31 May 1973
XX528	D	214	As for XX526 but f/f 24 May 1973, delivered 31 May 1973 as Code 10.
XX660	A	318	f/f 20 November 1974 and delivered to Oxford UAS 18 December 1974.
XX661	B	319	f/f 25 November 1974 and delivered with XX660

### Cambridge University Air Squadron (based at Cambridge Airport)

Serial No	Code	c/n	
XX634	C	304	f/f September 1974 and delivered in October 1974
XX657	U	315	f/f 26 November 1974 and delivered 16 December 1974
XX658	A	316	As for XX657
XX659	S	317	f/f 20 November 1974 and delivered 18 December 1974

The team usually contrive to be photographed with the Tail-Code letters in above order!

## The Pilots

Since this Souvenir Booklet is being prepared a month or so prior to the event, the exact line-up of pilots is not known, but the selected team and reserves is as follows:

### Oxford

Acting Pilot Officer M. Young (St. John's)—Captain	
Acting Pilot Officer T.J. Roche (St. John's)	
Acting Pilot Officer P. Baker (Wadhams)	
Acting Pilot Officer M.J. Pickavance (Oxford Polytechnic)	)
Acting Pilot Officer J.C. Maynard (Corpus Christi)	) Reserves
Cadet Pilot M.R. Hobbs (Lady Margaret Hall)	)

### Cambridge

Acting Pilot Officer M.L.R. Robinson (Queen's)—Captain	
Acting Pilot Officer H.C. Smethurst (Pembroke)	
Cadet Pilot D.C. Longstaffe (Emmanuel)	
Acting Pilot Officer R.J.S.G. Clark (St John's)	)
Acting Pilot Officer R.W. Last (Fitzwilliam)	) Reserves
Cadet Pilot J.D. Greville-Heygate (King's)	)



# British Bulldog

The two-seat military trainer Bulldog is a direct descendant of the Beagle Pup so perhaps a few words on its pedigree are necessary.

First of all the company name BEAGLE owes allegiance to British Executive & General Aviation Ltd which was formed on 7 October 1960 as a subsidiary of the Pressed Steel Company of Oxford. This company was the result of Pressed Steel's acquisition of the former Auster Aircraft of Rearsby and F.G. Miles of Shoreham, at the time among the few remaining firms engaged in light aircraft design and manufacture. Once re-organisation of the companies had settled, after a transitional period of Beagle-Auster and Beagle-Miles, Beagle Aircraft Ltd came into being on 10 May 1962.

In 1965 a range of projects were announced under the generic name Pup. Engines would range from 100 hp up to 210 hp and a mixture of fixed and retractable undercarriage versions would be offered. The first variant to appear was the Beagle B.121C and this duly made its first flight at Shoreham on 8 April 1967 registered G-AVDF. After further market research and public reaction to the mock-up at Farnborough 1966 the Pup 1 (the basic 100 hp version) and Pup 2 (150 hp engine) went into planning and the first production Pup 1 first flew on 23 February 1968 as G-AVZM and received Type certification in March 1968.

A military version was envisaged from the outset and later in 1968 a sliding-canopy version was formally announced and the Beagle B.125 Bulldog G-AXEH first flew at Shoreham on 19 May 1969. This machine in fact started life on the production line as a Pup but acquired a larger wing, increased all-up weight, constant-speed propeller and a 200 hp Avco Lycoming IO-360 engine. The prototype appeared at the 1969 Paris Salon where the first order from the Swedish Air Board was announced. Initially the order was for 58 with an option on a further 20, later increased to 45. Later that year orders were placed by the Zambian and Kenyan Air Forces.

Because of the financial difficulties of Beagle (as were well reported at the time) the second Bulldog, which had been started at Shoreham, was moved to Scottish Aviation at Prestwick for completion and first flew there

on 14 February 1971 wearing Swedish Air Force colours. In fact it was never delivered as a military aircraft and was disposed of to a civilian owner in 1974. The first true Scottish Aviation machine first flew on 22 June 1971 and was the first delivered to Sweden the next month. The Swedish order was split between the Air Force and Army initially with 58 and 20 respectively.

The disposition of Bulldog production to date has been as follows:

Model 121 For the Royal Air Force under designation Bulldog T.Mk.1. 130 ordered and first, XX513 was delivered on 20 February

1973 initially to Boscombe Down. The last was delivered in February 1976.

Model 122 For the Ghana Air Force. Six initially followed by seven as Model 122A.

Model 123 For the Nigerian Air Force. 20 initially followed by a further 12.

Model 124 Company demonstrator registered G-ASAL.

Model 125 For the Jordanian Royal Academy of Aeronautics. 13 delivered between 1974 and 1976 and then transferred to Royal Jordanian Air Force in 1978.

Model 126 For the Lebanese Air Force. Six delivered by October 1975.

Model 127 For undisclosed customer (reported as Kenyan Air Force). Nine delivered by December 1976.

Model 128 For Royal Hong Kong Auxiliary Air Force. Two delivered in 1977.

Model For Botswana Defence Force. Six delivered in 1980. (Model No not quoted but probably 129)

*Heading: Bulldog T.1 XX522 of No.2 FTS, seen at RAF Leuchars in September 1973 (A B Carlwa). The prototype Pup G-AVDF at Shoreham (Bernard Martin). Bulldog G-AYWN in Swedish Air Force colour scheme*



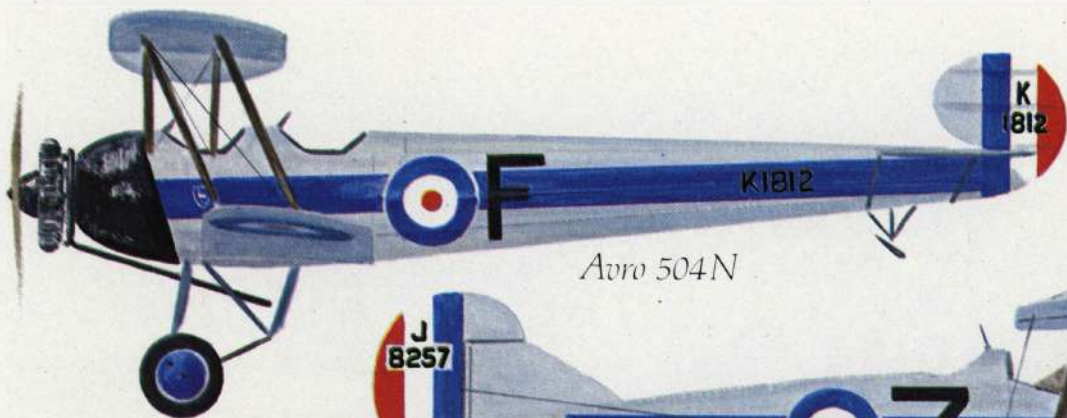




Above: Formation practice for Oxford University Air Squadron Bulldogs (Oxford UAS). Below: tail codes identify the Bulldogs of Cambridge University Air Squadron (Cambridge UAS). The one-off Bullfinch G-BDOG, with retractable landing gear, at Leicester in July 1980. An RAF radio trainer/communications aircraft of yesteryear—Neil Jensen's Proctor 1 G-AIWA/R7524 at Redhill. Visitors to the 1980 Fly-In, Gypsy Moth G-ABEV and Messenger G-AKIN (all J C Cook)







*Avro 504N*



*Bristol F2b*



*Atlas*



*Tutor*



*Tiger Moth*



*Chipmunk*



*Bulldog*

*Oxford University Air Squadron*





*Avro 504N*



*Bristol F2b*



*Atlas*



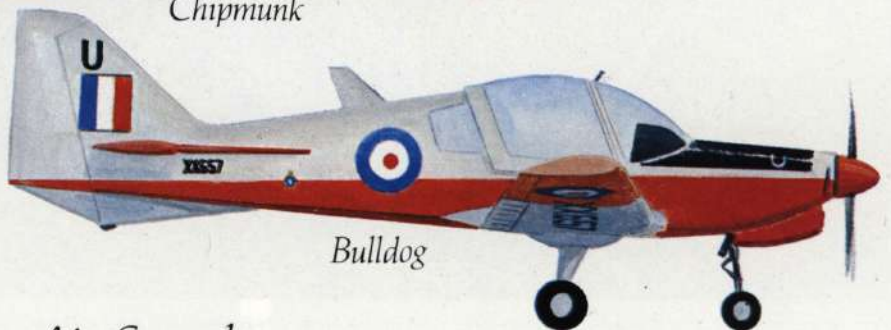
*Tutor*



*Tiger Moth*



*Chipmunk*



*Bulldog*

*Cambridge University Air Squadron*





Inflation complete, this group of gas balloons at the 1973 Cirencester Meet. PH-BVH Marco Polo, OO-BAL, OO-BGX Le Tomate and F-BDOZ Le bon vieux temps. Among the 'mushrooms', the German gas balloons Gebra III and Tecklenberger Land. Cameron O-56 Lady Budget and the larger O-84 G-AZDF Hannibal with suitable elephantine decoration (M J Hooks).



# University Air Squadrons

J.J. Halley

When the Great War ended on 11 November 1918, the Royal Air Force was less than a year old. Formed by the amalgamation of the Royal Flying Corps and the Royal Naval Air Service to establish a third service, equal to the Army and the Royal Navy in stature, its existence was immediately in question. As with all the other special forces born of necessity during the war, large numbers of aircraft, in common with tanks, tracked vehicles, flamethrowers, long-range guns and other highly-specialised wartime innovations, were considered unnecessary except as small, experimental sections of the two remaining Services.

Fortunately, the Commander-in-Chief of the Royal Air Force, Lord Trenchard, had other ideas. His difficulty was to get these through to the politicians whose one thought was to cut expenditure on the armed forces. Among the plans for the future of the Royal Air Force was the establishment of the best training system that could be afforded. Since any threat to the security of the country has always taken politicians by surprise, only a framework on which to build a mass training programme could provide the basis for rebuilding the air forces. Much of the available money voted in the Air Estimates went towards training establishments while operational squadrons flew their wartime-vintage aircraft with few modern replacements.

One of the plans which Trenchard approved in 1919 was the formation of University Air Squadrons. These were intended to encourage graduates to take up a career in the Royal Air Force by putting them in contact with the Service during their university studies. They could also form a link between the Royal Air Force and those parts of a University engaged in research with an aviation background.

In 1924, Sir Geoffrey Butler of Corpus Christi College, Cambridge, met Lord Trenchard to press for the establishment of a University Air Squadron for Cambridge and, by inference, Oxford, followed in February 1925 by a meeting between University representatives and the Secretary of State for Air, Sir Samuel Hoare, to draw up the details. The University authorities were not very enthusiastic about flying, regarding it as a fairly dangerous sport which could affect the even tenor of University life.

However, they relented to a degree which enabled Air Squadrons to be set up subject to certain limitations. Members had to do their flying training during vacations but visits could be made to Royal Air Force stations at the weekends. A Commanding Officer, an Adjutant and a clerk would be provided to administer each squadron but because the project was intended to cater for non-service personnel, the CO would be known as the Chief Instructor. Members would not wear uniform and duly appeared in dark blazers with the Royal Air Force badge and University Air Squadron ties.

On 1 October 1925, Cambridge University Air Squadron was formed, followed on 11 October 1925 by Oxford University Air Squadron. Each was restricted initially to under 50



members but numbers grew as more equipment became available in later years.

Flying began for CUAS on 19 February 1926 at Duxford, a Bristol F.2B and two Avro 504Ks having been allotted to the Squadron. All were of wartime vintage, the F.2B having earned fame as the Bristol Fighter and the Avro 504K as the standard trainer of the RFC and RAF. In 1927, the Avro 504Ks were replaced by four Avro 504Ns fitted with Lynx radial engines in place of the antique rotary engines on the 504K which sprayed petrol and castor oil over most of the aircraft and its occupants. A second F.2B arrived to bring the Squadron up to six aircraft.

Oxford took longer to get into the air and began flying at Manston during the Long Vacation but later received four Avro 504Ns which were based at Upper Heyford. Both Squadrons acquired town premises, at Fen Causeway, Cambridge and Manor Road, Oxford, respectively.

Each summer, the Squadrons spent a period at Royal Air Force stations, camping beside the airfield and using every opportunity to fly in service aircraft. Their own training aircraft were flown over to carry out basic training and many members soloed for the first time during these camps.

It had been intended that one flight of each Squadron would be a research flight, devoted to carrying out experiments for University researchers. Upper-air sampling, investigation into the physiological aspects of flying and other similar subjects found the availability of aircraft essential in pursuing their projects. Cambridge acquired a wind tunnel and Frank Whittle was one of the first to use it during his early experiments on jet engines.

In 1930, the old Bristol Fighters were replaced by Armstrong-Whitworth Atlas army co-operation aircraft, some of which had been converted to dual control trainers. OUAS moved to Abingdon in November 1932 and in 1934, Avro Tutors replaced Atlases and, later, the Avro 504Ns, becoming the standard equipment of University Air Squadrons until the outbreak of war.

Summer Camps used a variety of stations. At first Oxford preferred Manston and Cambridge used Old Sarum but in later years Cambridge came to Oxford's home airfield at Abingdon after using Netheravon while Oxford went to Eastchurch and Ford.

With the re-arming of Germany in the mid-1930s, the Royal Air Force began a programme intended to train more pilots for the Service. Royal Air Force Volunteer Reserve Centres were set up and throughout the country, training programmes were set up at civilian flying clubs and schools. Cambridge

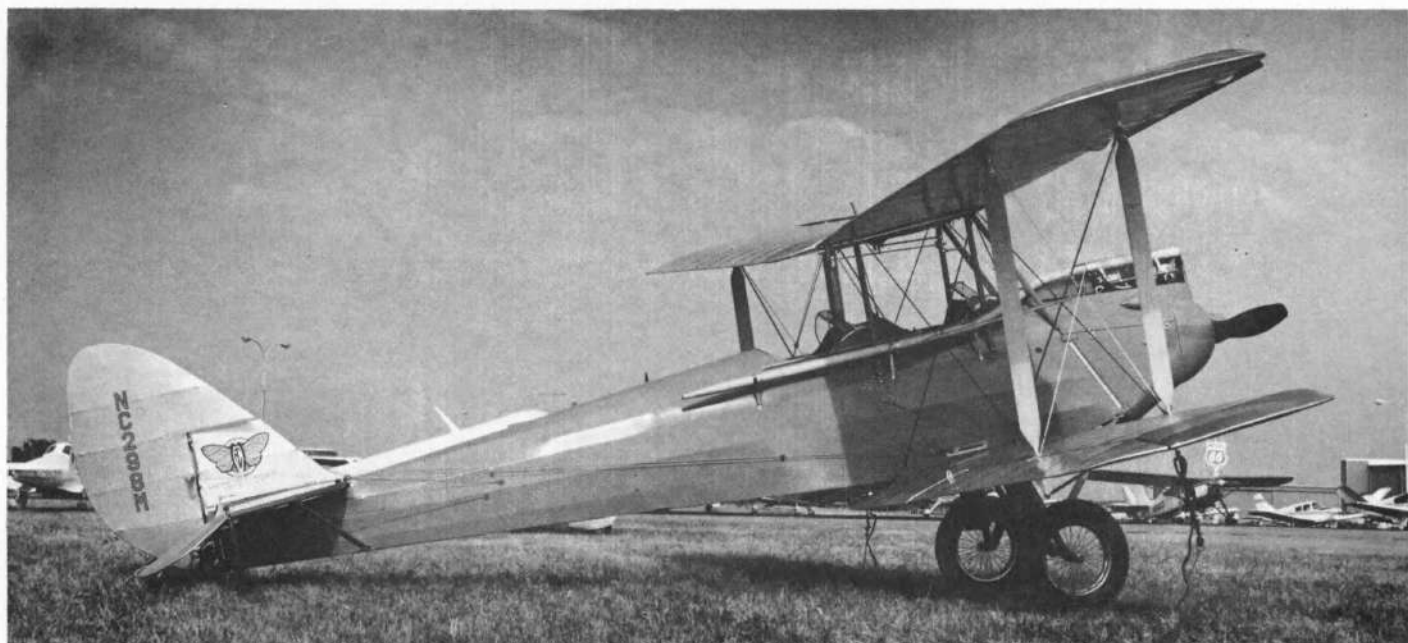
Airport and Kidlington, north of Oxford, became RAFVR centres and members of the Air Squadrons carried out additional training and received experience on more advanced types, the schools having received some Harts or their associated types in addition to their elementary trainers. Many members left their Universities to join the Royal Air Force during this period and Lord Trenchard's foresight began to reap dividends. Many names which later became famous first appeared on the rosters of the University Air Squadrons.

With the outbreak of war in September 1939, the Air Squadrons closed down and their aircraft were allotted to other units. However, after a year, it was found that people still went to universities and the policy was reversed. Armageddon had not arrived on schedule and life went on. In October 1940, the Air Squadrons were revived and received Tiger Moths. Other universities also formed Air Squadrons and Oxford and Cambridge were no longer the sole examples. This time, all members had to conform to the prevailing passion for putting everyone into uniform and Air Force Blue became the current fashion. Both Universities were surrounded by Royal Air Force stations and there was no lack of choice for training visits. Membership was conditional on everyone joining the Royal Air Force eventually; the exclusive flying club had become a flying training school. Several thousand members of aircrews came from the Air Squadrons, Cambridge recording the loss of 128 members killed in action.

At the end of the war, the question of University Air Squadrons once more was raised but their continued existence was finally confirmed. Oxford found Abingdon to be too full of Wellingtons on operational training to be a safe place for embryo pilots in Tiger Moths and moved to a flying training field at Shellingford for flying purposes, finally moving to Kidlington in April 1949 where the civil flying clubs and private owners had more compatible aircraft. Cambridge continued to use their local airport at Teversham.

In February 1950, Chipmunks began to replace the UAS Tiger Moths and the biplane departed for ever. Four Harvards were added in 1953 but withdrawn in the following year. Intended to give advanced trainings, they were overtaken by the new Royal Air Force training programme which required jet training before the presentation of 'wings'.

The popular Chipmunks served with the Air Squadrons for a quarter-century before being replaced in April 1975 by Scottish Aviation Bulldogs which remain the current equipment of both Oxford and Cambridge University Air Squadrons.



## Ah, de Havilland! Malcolm Fillmore

In a brief article such as this, it is impossible to give a history of the famous de Havilland series of light aeroplanes designed and built before World War II and to which this day at Old Warden is dedicated. Strangely enough, no one seems to have ever adequately catalogued the individual histories of this, arguably the most important chapter in British aviation development. Few books have done more than re-tell the well-known stories of the record-breaking flights, the developments based on little more than chalked out sketches on the hangar floor, and the fact that, to the layman in the thirties every aeroplane which was not an obvious airliner was a Moth.

In *Air-Britain's* civilian-orientated publication, *Archive*, we are remedying this defect with a blow-by-blow account of the history of each Moth—an epic destined to last out the century—for there were no less than 12,813 individual aeroplanes caught within our definition of Moth as the production summary at the end of this article reveals.

The combination of the simple structure employed as the basis behind any type of Moth and the sheer excellence of the Gipsy engine—its developments remained in production for thirty years—have left a mark in aviation history which can never be erased no matter what new directions are followed in the years to come. We are therefore fortunate in having permanently, at Old Warden, airworthy representatives of each of the principal types including the unique DH 90 Dragonfly—the

only one now flying and matched by only two others extant in the whole world (one in the USA and one in a Uruguayan museum).

The development of all these types goes back to 1924 when civil aviation was in its infancy. Cheap but relatively unreliable war surplus engines were readily available and several companies including de Havilland were trying to find the formula for combining these cheap engines into a light aeroplane airframe to make an economical and reliable

touring/training and general pleasure machine. At the same time the government was looking at the situation, as it so often did and still does, from the opposite point of view. They were sponsoring competitions for very low-powered and, what is now called, 'ultra-light' aeroplanes, to meet the requirements of the civilian market.

de Havillands, though they entered the competitions which were held at Lympe, never rated very highly the chances of these finding adequate solutions and instead concentrated their efforts on a larger, but not too large, power plant and in conjunction with The Aircraft Disposal Company came up with a cut-



*Heading: US-built DH 60GM NC298M at Denton Municipal Airport on 10 June 1972 (Erwin J. Bulban). Tiger Moth D-EEAJ at Red Baron fly-in. DH 60G3 Moth Major HB-UPE at Croydon in the 1950s (J.C. Cook)*

down war-surplus Renault engine producing 60 hp built by ADC under the guidance of Major F.B. Halford and named the Cirrus.

This engine, fitted in a simple wooden-framed biplane gave birth to the first truly civilian light plane in 1925—the DH 60 Moth. An immediate reputation grew around this aeroplane. It was cheap—Moths sold for as little as £650 in 1928—and it was very reliable. Above all, de Havilland had a flair for publicity and were never backward in promoting the aircraft in any way possible. A little after three months from the first flight of the first Moth, Alan Cobham (later Sir Alan Cobham and a well-known pioneer pilot later responsible for development of in-flight refuelling) had flown from Croydon to Zurich in Switzerland and back in one-day, in a blaze of publicity.

Just as motor car manufacturers developed their products, so did de Havillands. New models were constantly being brought out—the engine was progressively up-rated, flaps to give better stalling characteristics were introduced; Moths were fitted with floats or skis, cockpit canopies—in fact a continuous







Fox Moth G-ACEJ in current livery at Old Warden.

programme of modifications. The most significant development came in 1927 when, with war-surplus Renault component supplies dwindling, it became necessary to find an engine to replace the Cirrus. de Havilland went back to Major Halford and this time he designed a brand new engine specifically for the company. Rated at 100 hp this was the Gipsy and it soon entered production in a purpose-built engine shop at Stag Lane.

This engine was a real bombshell—it outpaced any contemporary engine for reliability and was adopted worldwide by light plane manufacturers, including companies in the USA where it was produced under licence by Curtiss-Wright Corporation. Ever keen on publicity, one of the first Gipsy I engines was flown in Moth G-EBTD for 600 hours, between December 1928 and September 1929, on a reliability tour, without overhaul or any attention other than strictly routine. On completion of the inspection at the end of this period, replacement parts cost a little over £7—and this at a time when engine failure was a normal hazard of everyday flying.

The engine and the airframe were progressively developed—the engine was uprated to 120 hp, then 130 hp and finally turned upside-down to give a better profile and to give the pilot greater vision of the ground when landing—in this form it became the Gipsy Major. The airframe itself changed—for harsher climatic conditions, a steel tube frame replaced the wooden structure and this found favour not only in Canada as the DH60M but a development, the DH60T Moth Trainer led directly to the DH82 Tiger Moth and the first of the extensive orders from the RAF as its basic trainer from the late thirties right the way through the war to the early fifties. By the time the last Tiger Moth was rolled out at Cowley in 1944, no less than 5486 had been built in Britain out of a grand total of 8389 world-wide. The RAF alone had received 4668 from the

UK production—sales of the remainder read like an atlas of the world as it was then, with deliveries to 35 different nations.

Meanwhile, de Havilland had not stood still—recognition that an open-cockpit biplane did not fulfil the requirements of all flyers (who like most human beings also appreciated occasional comfort), resulted in the development of a cabin monoplane—the DH80A Puss Moth. Intended for touring, it was so much faster than anticipated that it soon became the standard mount for long-distance record breaking flights.

Shortly after the introduction of the Tiger



Railway Air Services Ltd Dragon G-ACPX at Croydon in May 1934. (Flight 103555).

Moth as a basic trainer the need for a cheap passenger carrying aircraft became evident. With the proven abilities of the Gipsy Major engine, de Havilland simply enlarged the fuselage of the Tiger Moth to include a small cabin in front of the pilot's cockpit and between the wings and called it the DH83 Fox Moth. Thus came into existence a very economic four-passenger aeroplane which found great favour amongst embryo airlines, air taxi companies and pleasure flyers.

DH86 VH-UUA of Qantas Empire Airways Ltd. (Flight 14545).



One engine did not however answer the needs of regular airline operations and thus shortly after, in 1932, a twin-engined derivative came into existence—the DH84 Dragon. Built initially to the order of Hillman's Airways of Romford for use on their proposed London to Paris route, like so many of its immediate predecessors it was found to be better than anticipated.

The next light aeroplane in the range might be looked upon as going backwards in development—this was the DH87 Hornet Moth, a single-engined biplane. Designed in 1934 as an experimental aeroplane to assess the suitability of a side-by-side cabin training machine as a successor to the Moth for flying clubs, it was not immediately put into production. However, after some modifications, it became a popular type with private and club flyers during the mid to late thirties and proportionately more survived the war than any other type to lead active lives to this day. Not an earth-shattering aeroplane but a good sturdy workhorse nonetheless.

The final Moth derivative to consider in this article is perhaps the unluckiest—the DH94 Moth Minor. Designed as the true successor to the Moth, this was a low-wing, cheap aeroplane with a low-powered 90 hp Gipsy Minor engine. Truly a very modern aeroplane for its day and without doubt it would have been extremely successful but for one major problem—World War Two. Just as production got underway in 1939 and with a price tag of only

£575, the priorities had to be changed and the whole production line, jigs, tools and incomplete airframes were shipped to Australia in order to make way for the Mosquito. There, at Barkstown, assembly was completed but despite the intentions at the time, no new production was commenced.

Before we leave this summary of the pre-war de Havilland light plane, however, mention must also be made of two other related types. In 1932, the DH60G Moth was developed so extensively that it became a virtually new type, fitted with the inverted Gipsy III engine and the later up-rated Gipsy Major, it was given the type number DH60GIII, the latter being called the Moth Major. Used mainly as a club aeroplane, it has often been claimed as being the nicest of all Moths to fly, being the type which was effectively the immediate predecessor of the Tiger Moth, incorporating modifications designed to make it a good military trainer rather than a 'nice' aeroplane. The claim could also have been put around because, at least after 1958, no Moth Major existed in England and thus no-one can disprove it. However all should change in a few years time. Bob Ogden, who has just finished the rebuild of a Moth Minor has just started to rebuild, almost from scratch, G-ABZB which

he salvaged from Sweden.

The final type to refer to is the DH82B Queen Bee. A Tiger Moth built up from Moth Major components and fitted with radio-control equipment, this type was much used before and during the war as a gunnery target and one remains in store at Old Warden. One other, masquerading as a Tiger Moth, flies to this day in the USA having been sent out there during the war for experimental research.

The Dragon, on two Gipsy Majors, could carry six passengers and luggage comfortably—and later modifications pushed the seating up to eight passengers. This aircraft marked the success of the small de Havilland airliner—and led directly to the larger four-engined DH86, the twin engined DH89 Dragon Rapide (and military Dominie) and the final successful member of this part of the family, the DH90 Dragonfly.

The latter aircraft—designed as a five seat luxury tourer, though looking much like a

scaled-down Dragon Rapide, was in reality a very different aeroplane. Structurally, whilst all previous wooden aircraft were based on a fabric covered frame, the Dragonfly's fuselage was a monocoque shell of pre-formed plywood with only light spruce stringers. This made for a lighter structure and therefore improved performance on relatively low power. The majority of the Dragonflies were exported, many initially as private or executive machines, although most eventually came into commercial use.

Reverting to the chronology of de Havilland types, the one which followed the Dragon was the DH85 Leopard Moth of 1933 which was essentially an updated Puss Moth with a wooden fuselage in place of the Puss Moth's welded steel tube structure. This type soon became very popular as a luxury tourer and many were used during the war on communications duties.

The Strathallan Collection's Dragon Rapide G-ALXT (Ian McFarlane). Moth Minor HB-OMU was photographed at Geneva—1960 (J C Cook). Hornet Moth G-ADMT outside one of the private garages at Hatfield (Flight 13680s)



#### DH Production Summaries

DH 60/60X/60G/60M Moth	
—UK	1639
—France	48
—Canada	35
—Australia	38
—Norway	10
—Finland	24
—USA	179
	1973
DH 60GIII Moth/Moth Major	
—UK	136
DH 80A Puss Moth	
—UK	262
—Canada	25
	287
DH 82/82A Tiger Moth	
—UK	5486
—Canada	1548
—Australia	1070
—New Zealand	133
—Portugal	91
—Norway	38
—Sweden	23
	8389
DH 82B Queen Bee	405
DH 83/83C Fox Moth	
—UK	98
—Canada	54
—Australia	2
	154
DH 84 Dragon	
—UK	115
—Australia	87
	202
DH 85 Leopard Moth	
—UK	131
DH 86/86A/86B	
—UK	62
DH 87/87A/87B Hornet Moth	
—UK	165
DH 89/89A Dragon Rapide	
—UK	727
DH 90/90A Dragonfly	
—UK	67
DH 94 Moth Minor	
—UK	78
—Australia	37*
	115

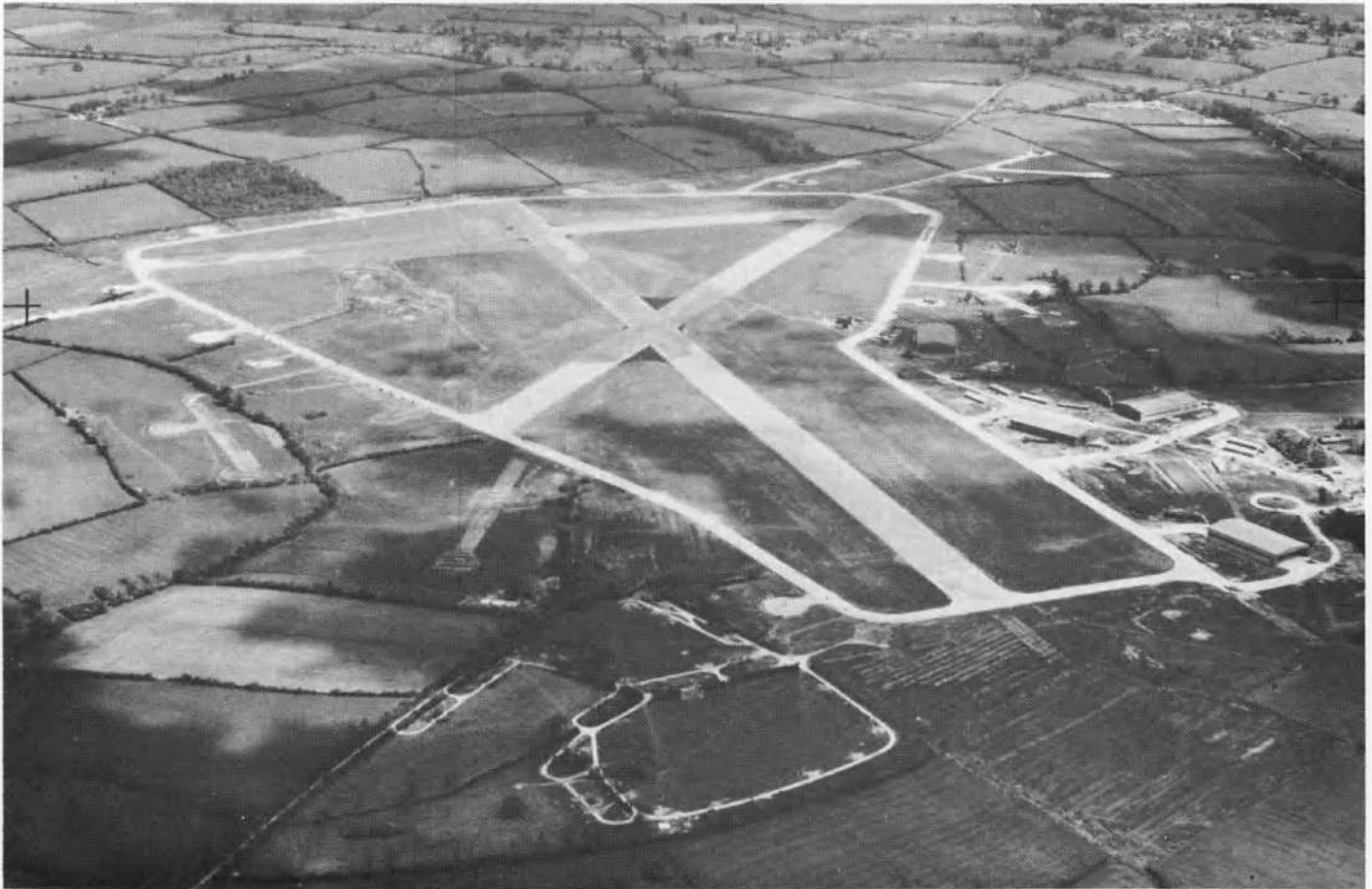
\*Precise details are not available as between UK and Australia production since all incomplete aircraft, jigs and tooling were shipped from Hatfield to Australia in late 1939.



## Aeromilitaria

This is the name given to the Military Historical journal produced four times per year. The aim is to publish rather more detailed articles on more specialised topics than would normally appear in Digest. It also specialises in more tabular presentations in some cases, a feature that Air-Britain made a conscious effort to avoid in Digest. Many articles are produced in serialised form from Issue to Issue in such a way that those members who like to file particular sections together can easily do so. The A4 size (usually 28 pages) allows the use of larger photos when available and many mouth-watering and evocative pictures from yesteryear greet the reader. Features over the past eighteen months have included a discourse on the de Havilland Hornet, RAF Curtiss-Mohawks, early Gloster Meteors, and slightly more modern, a review of the Folland Gnat. Each issue usually features a particular airfield, examples being RAF Manston, Weston-on-the-Green, and RAF Cottesmore. Even the detailed drawings, so useful for modellers, produced by our own Graphics Officer.

The article selected for this Souvenir Booklet virtually offered itself. It first appeared last year and details the history of Wing Airfield, one of the reference points in the 1981 Oxford & Cambridge Commemorative Air Race.



Wing airfield, seen from the west, in May 1942. The north-south runway has yet to be extended and the east-west runway was later also extended, and additional hangar being built.

## Wing

Wing, six miles NNE of Aylesbury, might have become London's third airport. The Roskill Commission of 1971 named Cublington (including the site of the disused airfield of Wing) as one of the possible sites in the south-east for London's third airport.

In 1940, the site was selected as an airfield and construction began. It was occupied by an advanced party of 75 men on 24 November 1941 and on 2 December, Gp. Capt. J.N.D. Anderson arrived to take command of the newly-built airfield.

Throughout its active life, Wing was a training station and in the absence of major events, the following is a diary of items of note, many of which were common to other similar stations.

### 1942

15 January: No.26 Operational Training Unit opened in No.7 (Training) Group, Bomber Command. Its establishment was 54 Wellington ICs, 18 Ansons, 2 Lysander TTs.

9 March: The runways were being cleared of obstructions.

15 March: A servicing squadron of 121 airmen was sent to the satellite airfield at Cheddington, five miles south-east of Wing.

18 March: The CO landed a Tiger Moth at Wing, being the first aircraft to land there.

22 March: Four Ansons arrived at Cheddington.

26 March: First flight from Cheddington.

31 March: B and C Flights formed at Cheddington.

16 April: Seventeen Wellingtons and six Ansons had arrived to date, all at Cheddington.

25 April: No. 1 Course began.

11 May: No. 7 Group disbanded, being replaced by No. 92 Group, Bomber Command.

30/31 May: No. 26 OTU Wellingtons bombed Cologne in the first Thousand-Bomber raid. The following aircraft operated from Graveley: DV707 (Missing); DV719 (R); DV821 (V); DV867 (T); DV908 (Q); DV823 (Y); DV780 (Crashed); DV725 (J); DV808 (W); DV825 (U); DV723 (H); DV871 (P); HX375 (X); DV709 (F) (Crashed); DV868 (E); DV703 (B); W5704 (S) (Missing); DV701 (G); DV740 (O) (Missing); DV721 (N).

1/2 June: No.26 OTU Wellingtons bombed Essen from Graveley, losing HX375.

25/26 June: No. 26 OTU Wellingtons bombed Bremen, losing DV721.

10 July: E (Air Firing) Flight formed at Wing with two Wellingtons and one Lysander. Flights at Wing were A (Ansons), B, C and D (Operational Training) and E.

28 July: Fourteen Wellingtons despatched to bomb Dusseldorf. All recalled and landed safely with bombloads.

July: Average strength of unit during month was 33 Wellingtons, 5 Ansons and 3 Lysander IIAs.

22 August: Gp. Capt. Snaith (Air Ministry overseer for Martin-Baker) arrived to supervise trials of MB-3.

31 August: MB-3 R2492 first flown from Wing by Capt. H.V. Baker.

3 September: Move of aircraft and personnel from Cheddington to new satellite at Little Horwood, six miles NW of Wing, completed. Cheddington transferred to USAAF.

10/11 September: Eight pupil and two screened crews bombed Dusseldorf. DV867 and DV703 lost.

12 September: MB-3 destroyed in forced landing following engine failure. Captain Baker killed.

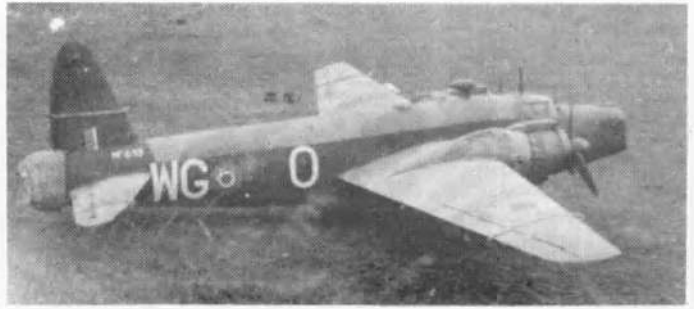
13/14 September: Twelve crews bombed Essen; one lost.

16 September: No.92 Group Maintenance Flight arrived at Little Horwood from Bicester.

September: Total flying hours: Day 946; Night 763.55

16/17 September: Nine crews attacked Essen. DV941 and DV723 lost.

October: Strength: Two Wellington I; two Wellington IA; 49 Wellington IC; 6 Anson; 3 Lysander; 3 Tiger Moth; one Defiant; one Proctor.



Wellington MF648 (WG-O) of No.26 Operational Training Unit

## 1943

1 January: Gp Capt. J. Bradbury took over command.

23 January: Thirteen USAAF B-17s landed at Little Horwood from operations over Lorient. They were short of fuel and there was bad weather at their base at Chelveston.

March: Some Wellington IIIs received. One Cygnet (presumably ES915 of Maintenance Command Communications Squadron) attached to Station Flight, Little Horwood, for No.1 SCU.

30 May: Strength: Wellingtons: One 1A, ten IC, forty-four III, five X; five Ansons; three Lysanders; one each of Tiger Moth, Defiant, Proctor, Tutor and Hawk, three Martinets and the attached Cygnet.

31 May: Wellington III BJ977 destroyed by fire at N.13 dispersal, Little Horwood.

5 June: No.1684 (Bomber) Defence Training Flight formed at Little Horwood with six Tomahawks. Moved to Wing on 17 July.

July: Wellingtons dropped leaflets over French towns, Laval, Le Mans, Alencon, Tours, Chateaudun and Blois.

7 August: Wellington III X3790 crashed in Winslow, Bucks. It hit a tree and crashed into the roof of a house in the High Street, carried on across a road and after striking the roof of 'The Chandos Arms' demolished four cottages. The crew of four and 13 civilians were killed. It is believed that the pilot lost control through not concentrating on his instruments.

30 August: Two Wellington Xs and two IIIs were detailed to bomb a special target in the Foret d'Eperlecques in Northern France. HE500 was lost.

September: Strength: 41 Wellington IIIs, 12 Wellington Xs; two Ansons; four Martinets; two Proctors; two Tutors (of No.92 Gp Comm Flt); six Tomahawks (of 1684 Flt); one Tiger Moth; one Oxford; one Cygnet (of 1 SCU).

October: The first consignments of 4,000 lb bombs were delivered to Wing and Little Horwood.

31 December: B-17s 237779 (B), 239898 (A), 2298837 (A) based at Bassingbourn, 239958 and 758 (K) from Podington and 4230155 (E) from Chelveston landed at Wing on return from a raid. Numbers as recorded but probably all were 42- prefix, making 2298837 into 42-98837, etc.

The Martin-Baker MB-3 Prototype at Wing in August 1942 prior to test flights.

## 1944

29 January: Wellington III BJ978 hit by AA over London when off course. No casualties.

1 March: Gp. Capt. R.M. Coad took over command.

9/10 April: Stirling III of No.75 (NZ) Squadron landed at Wing after jettisoning bombs in the Cheddinton/Marsworth/Ivinghoe area.

30 April: Now six Hurricane IICs on strength, replacing the Tomahawks in 1684 Flt. Serials were: LF757, LF689, LF739, LF772, LF761 and LF764.

May: E Flight (TT) equipped with four Hurricane IICs—MW344, MW351, LF713 and LF766.

A total of 4,763 hours were flown during the month by all types.

1 June: Twelve Lancasters landed at Wing and five at Little Horwood from operations.

6/7 June: Fifteen Halifaxes landed at Wing from operations.

9 June: At Wing, Wellington HE854 collided with parked HE786, two Queen Marys (one loaded with Tomahawk AK116) and No.4 hangar. A major fire involved aircraft, hangar and transport. Three WAAFs of No.71 MU were killed as was also the co-pilot.

31 July: No. 1684 Flight disbanded; official date was 21 August.

24 August: Flying ceased at Little Horwood at 16.00 and No.26 OTU became a 'three-quarter' OTU.

26 August: Remaining training and servicing wing personnel returned to Wing on vacation of Little Horwood.

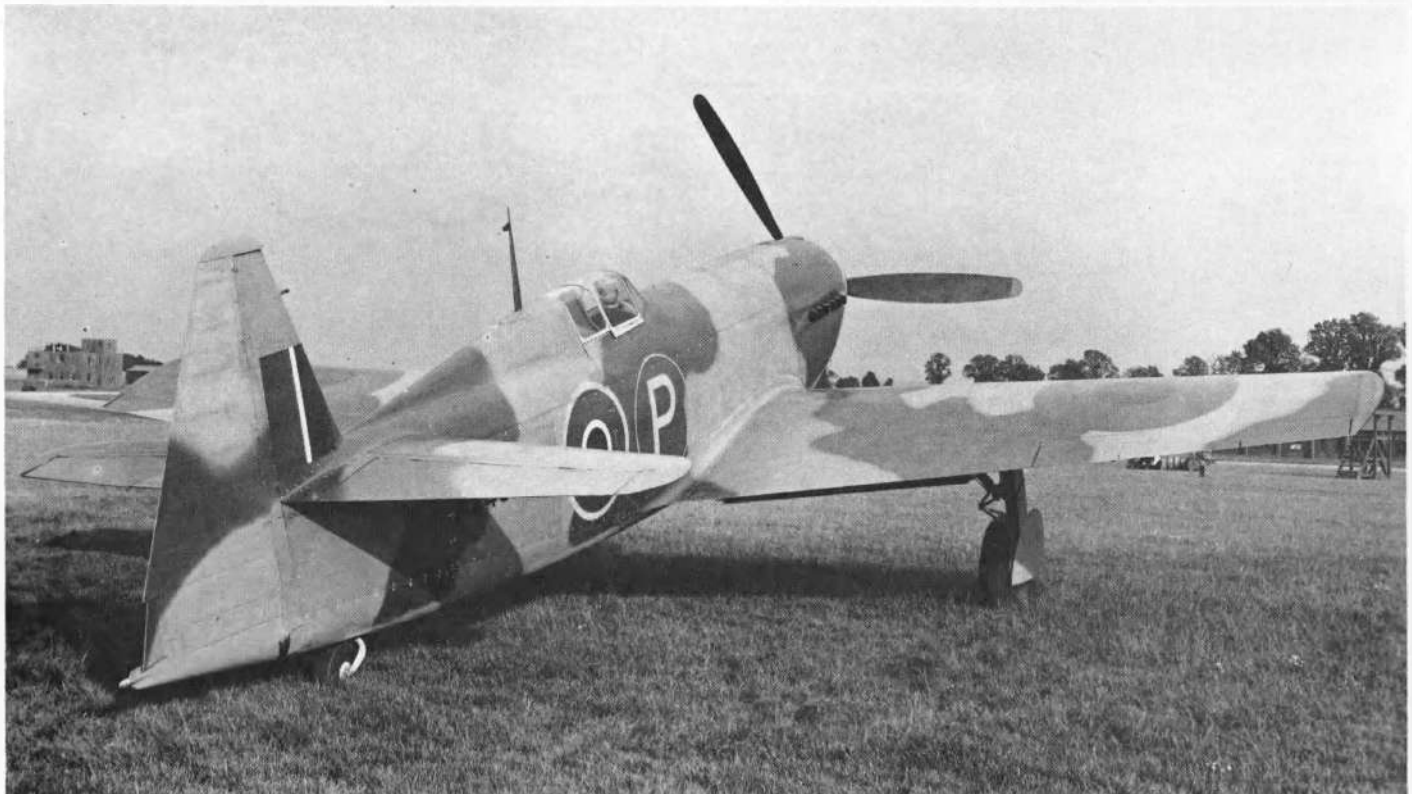
9 September: Last Wellington arrived at Wing from Little Horwood. Strength reduced to 44 aircraft.

October: During the month, all servicing wing sections at Little Horwood reopened and it became a satellite of Wing again. OTU increased to full size with an establishment of 54 Wellingtons, six Hurricanes and two Masters.

November: Two Warwick IIs (HG349 and HG350) arrived for modification to OTU requirements from Vickers, Chester.

December: Strength of aircraft: Nine Wellington III, 41 Xs; six Hurricane IIC; two Warwick II; two Master II; one Oxford (92 Gp CF), two Anson; two Proctor; one Magister.

(Photo courtesy of Philip Jarrett)





**1945**

January: No.60 Group Radar Navigation Aids Test Flight present with two Wellingtons (NA840 and NA841) to test the Gee Chain.

9 April: Wing became one of several Allied POW repatriation centres in the UK. First batch of 819 men arrived in 33 Dakotas. Further arrivals were on 20 April—44 Stirlings, 8 Dakotas; 22 April—57 Dakotas; 28 April; 5 Dakotas. 14,794 ex-POWs had arrived by 30 April.

May: Further arrivals included: 4 May—13 Dakotas, 25 Lancasters; 8 May—61 Lancasters, 8 Dakotas (1,750 POWs); 10 May—74 Lancasters; 13 May—28 Lancasters, 51 Dakotas; 15 May—132 Lancasters.

In all, during May 1,269 aircraft landed at Wing including 621 Dakotas, 518 Lancasters, 117 Stirlings, 11 Ansons, 1 Hudson and 1 Mitchell. On 10 May, one Lancaster with 31 POWs crashed on landing. 15 June: No.92 Group disbanded; 91 Gp took over Wing. July: E Flight moved to Wing to become Unit Gunnery Flt. 15 September: Wing and Little Horwood opened for first Battle of Britain Day.

30 November: Flying at Little Horwood ceased.

4 March: No.26 OTU closed; airfield to Maintenance Command on 4 May 1946.

22 April 1960. Ground sold by Air Ministry.

**Airfield Buildings**

- 1-4 T.2 hangars
- 5 B.1 hangar
- 6 Squadron offices
- 7 Watch office
- 8 Armoury
- 9 Photographic block
- 10-12 Maintenance blocks
- 13 Inflammable stores
- 14 Main stores
- 15 Workshops
- 16 Motor transport sheds
- 17 Gas chamber
- 18 Parachute store
- 19 Gas defence centre
- 20 Works services building
- 21,22 Fuel installation (72,000 gall each)
- 23 Motor fuel (5,000 gallons)
- 24 Machine gun range
- 25 Operations block
- 26 Fire station
- 27 Pigeon loft
- 28,29 Control caravan stands
- 30 Bomb dump
- 31 Pyrotechnics and incendiary store

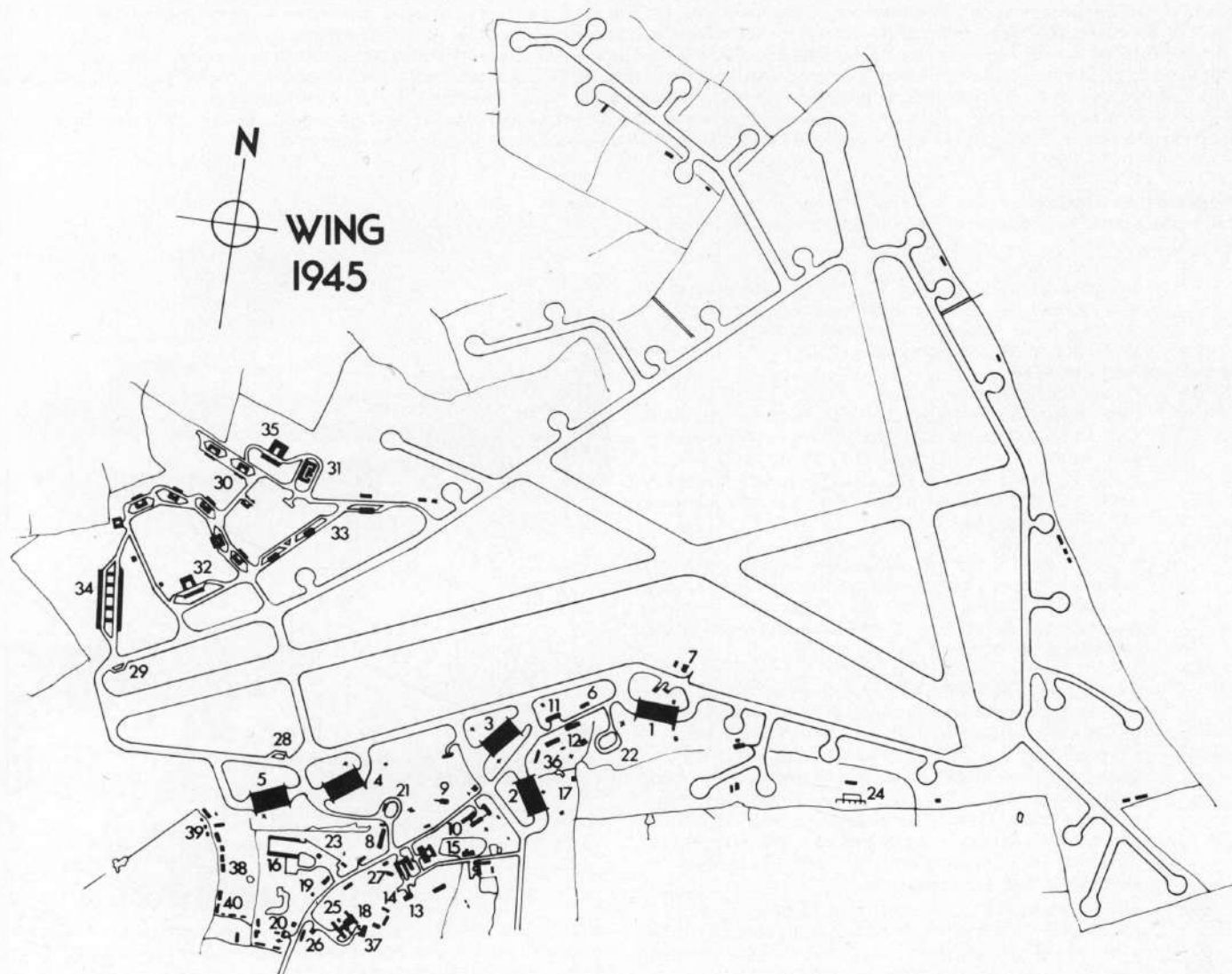
- 32 Fuzed and spare bomb area
- 33 Fuzing point building
- 34 Bomb stores
- 35 Incendiary bomb store
- 36 Maintenance wing offices
- 37 Radar workshop
- 38 Officers' quarters
- 39 Airmens' quarters
- 40 Sergeants' quarters

Instructional buildings, Link trainer room and additional accommodation were located at dispersed sites outside the airfield boundary. These were often up to two miles from the actual airfield and were, in some cases, only groups of a dozen small nissen huts. Larger sites also housed the cookhouse and recreational buildings.

The cross-shaped small buildings on the plan are air raid shelters sunk into the ground with earth covering. Buildings dispersed around the perimeter track were huts for ground crews and their equipment.

Aircraft were normally parked on the dispersal pans except when they were undergoing maintenance other than daily inspections and minor repairs.

The bomb dump contained all those areas which contained hazardous armament and the structures are not buildings but blast walls to contain any local explosion. In practice, if a bomb exploded, the entire bomb dump went up in most cases.



## Archive

This is the youngest of Air-Britain's companion journals and first appeared at the beginning of 1980. For some time it was felt that aspects of civil aviation should be given similar exposure to that given by *Aeromilitaria*. Thus more detailed commentaries may be made on particular types and again more tabular research material is presented. A number of serialised features is included the most ambitious being the complete story of each de Havilland 60 Moth. Everything that is known about each aircraft is listed and many rare photos are included. Another continuing feature is an exposition of the original hand-written log of Certificate of Airworthiness Applications, the basic data being expanded to show the later details—this has already produced some new information on old problems of research. In parallel is a similar survey of all aircraft reviewed for possible Impressionment into RAF service in 1939. Detailed research by dedicated experts also enables a review of Piper Cub historical anomalies bared in the continual search for truth. As for *Aeromilitaria* large photos and drawings are used and the example chosen for this Booklet is the Complete Register of Fiji, typical of the detail published.

# Complete Civil Registers: 2-Fiji

## Part One

The registration block VQ-FAA to VQ-FAZ was allocated to Fiji by the British Government from its colonial series in 1928. It was reissued once VQ-FAZ was reached although Fiji Airways Ltd were ahead of the field with their re-use of VQ-FAL. Part of the way through this second sequence the VQ-FBA series was begun and this reached VQ-FBR without duplication before independence in 1971.

Such was the complexity of colonial holdings in the Pacific that the VQ-F registration group also included Pitcairn island (well over 3,000 miles away) from 1952 until 10.10.70 when it became independent of Fiji. No aircraft from this register are known to have served there. New Hebrides aircraft with British owners were also able to use VQ-F, or later VP-P, while any French aviators in the condominium used the F-O series.

In 1971 the callsign groups 3DN to 3DZ were allocated to the newly-independent Fiji and DQ- was selected rather than 3DQ to ease repainting and administration (though in theory this is part of the allocation for East Germany commencing at DM-).

The Gilbert Islands and Tuvalu, formerly Ellice Islands, also make use of the DQ- marks although the batch from VP-PIA to VP-PPZ was allocated in 1968. Likewise Fijian marks could also be used by aircraft based in Tonga—depending on the current administration VP-P was the alternative—but this group has now been allocated the A3- prefix.

The register is treated below in two parts for completeness with all VQ-registrations and reissues alphabetically in this case to simplify reference, followed by all DQ- registrations. The nominal date of transfer to DQ- was 1.10.71 and this is what we have shown for all aircraft that were then current.

Some brief comments are necessary about the administration of the register and events in Fiji. There is no formal system of reservation and hence many rumours abound concerning aircraft allocated the marks VQ-FBE, DQ-FBU, DQ-FCI and DQ-FCL. While it is possible that certain imports were intended the hard facts were not written into the register as such. To include the details below may add credence to the rumours but readers will at least be well aware of the speculative nature of what is often quoted as fact elsewhere. The first users of the marks VQ-FAB, C and D were all cancelled after being withdrawn from use for some time, as made possible by the 1927 Air Navigation Order.

It is worth noting that Fiji Airways changed its name on 31.7.71 to Air Pacific which it was felt would better reflect its regional route expansion. In order to do this it purchased the name from the company operating internal air taxi services and this in turn became Fiji Air Services. Operating as Fiji Air this company now covers most internal destinations while Air Pacific mainly connects Fiji with more distant locations.

As much detail of previous owners as well as identities has been incorporated as time allowed for collection. Comments on this register or on the historical article due to appear in a forthcoming edition of *Digest* will be gratefully received by the *Archive* editor.

## Before the First Register

One aircraft owned by a resident of Fiji is known (but see the article in *Digest* for details of other early flights):

G-EBZY DH.60G Moth c/n 806  
N.S. Chalmers, Suva. Canc from UK register late 1929 and taken to Fiji, erected but badly damaged on first flight 3.2.30 at Suva. Shipped to New Zealand 13.2.30 and sold as ZK-ABV 3.30, w/o Rongotai 3.12.37.

## The Colonial Register, VQ-F.

VQ-FAA Simmonds Spartan Floatplane 47 5.6.30  
Test-flown at Southampton 2.30 prior to delivery and UK C of A no.2403 issued 3.2.30 to Gordon Fenton. Regd to C.G. Fenton, to Fiji Airlines 8.10.30, to C.G. Fenton 23.10.31, to Fiji Airways Ltd 19.4.33 (though file in UK says 19.10.33), believed cancelled 21.8.33 and fate unknown although possibly to Australia.

VQ-FAA Taylorcraft L-2A 0-4247 13.2.46  
(2) Ex 42-5120. T.F. French. Apparently after re-allocating these marks the Authorities decided that the Spartan was technically still registered! The Taylorcraft therefore became VQ-FAE on 16.2.46 and the above marks were probably never carried.

VQ-FAA DHC-2 Beaver 741 4.3.60  
(3) Ex VH-DHI, VH-EAV. Fiji Airways Ltd, arrived 16.4.59 and operated on amphibious floats. Sold to Aerial Agriculture as VH-AVR 11.62 and w/o at Armdale, NSW, 9.7.64.

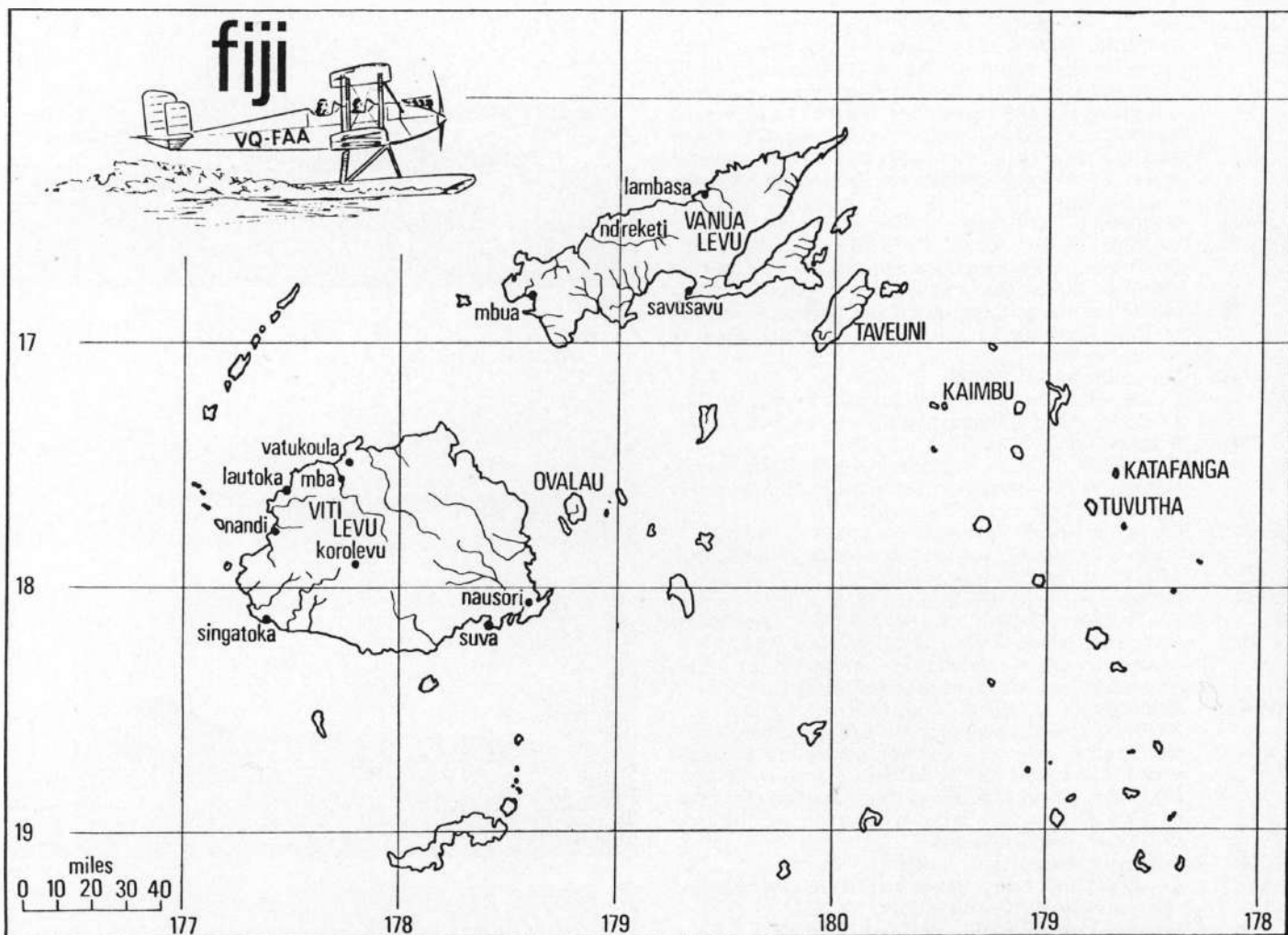
VQ-FAB Dornier Do 12 Libelle 117 15.9.30  
Built by Dornier Metallbauten GmbH and probably supplied via agents Port Jackson Avn Co Ltd, Sydney. Regd to A.H. Marlow. Canc when register closed 14.11.49 as wfu following damage in hurricane 3.31. Stored in Derrick Technical Institute, Suva, until 1972 and then in Marlow's Boatyard where it still lies.

VQ-FAB DH.114 Heron 2E 14068 21.11.62  
(2) Ex VT-DHF with Indian Airlines 4.55, Banwarilal 5.61. Fiji Airways Ltd. Wfu at Nausori and cancelled 19.6.69, cannibalised 69-70 and remains still to be seen in 1973.



Two views of Beaver VQ-FAA: above as an amphibian with Union Jack on the fin (Ron Killick) and below on wheels and wearing the Australian flag, possibly just before its return to that country (Des White).





- VQ-FAC Genairco Floatplane 17 23.3.33  
Ex VH-UOH, f/f in Australia 5.32. Fiji Airways Ltd, sold as VH-UUI 24.9.36 but officially cancelled as wfu when register closed on 5.10.49. To Richard Sawyers Aviation Center, San Jose, California.
- VQ-FAC (2) DH.114 Heron 2E 14075 12.62  
Ex VT-DHJ with Indian Airlines 8.55, Hindustan Steel .58, Indamer 5.62. Fiji Airways Ltd, to Air Pacific 31.7.71, re-regd DQ-FAC.
- VQ-FAD Genairco Floatplane 18 23.3.33  
Ex VH-UOJ, f/f in Australia 11.32. Fiji Airways Ltd, sold as VH-UUK 10.35 but officially cancelled as wfu when register closed on 5.10.49. Destroyed by fire at Cairns, Queensland, 12.6.37.
- VQ-FAD (2) DHA-3 Drover 2 5002 4.2.64  
Ex VH-BMU, (G-APPP), VH-BMU, (VH-CAT), VH-BMU. With Dept of Civil Aviation, Melbourne, regd 12.49. Regd to New Hebrides Airways Ltd, re-regd VP-PAD 1.6.66, w/o Tanna Island 21.10.66.
- VQ-FAE Taylorcraft L-2A 0-4247 16.3.46  
Ex VQ-FAA(2), 42-5120. T.F. French. Sold as ZK-ATY, leaving on the 'Aorangi' 11.3.50. Cr on flight from Rotorua to Wairoa 23.11.56, found 2½ years later.
- VQ-FAE (2) DH.114 Heron 2E 14122 1.10.64  
Ex G-ASVB, EC-AOC. With Aviaco 8.57 and Morton Air Services 31.7.64. Fiji Airways Ltd, to Air Pacific 31.7.71, re-regd DQ-FAE.
- VQ-FAF DH.82A Tiger Moth 82905 12.11.47  
Ex NZ893, R5010. Assembled by DHNZ Ltd, Rongotai, July 1940 after arrival on 'Rangitane' from UK. Declared surplus 11.46 and sold to N.S. Chalmers in Fiji. To C.G.W. Kuhn 10.12.51, sold to New Zealand, leaving on 'Tofu' 17.10.52, regd ZK-BCI 16.4.53, dbr in hurricane, Hawera, 22.5.59.
- VQ-FAF (2) DH.114 Heron 2E 14123 1.10.64  
Ex G-ASVC, EC-AOE. With Aviaco 10.57 and Morton Air Services 31.7.64. Fiji Airways Ltd, to Air Pacific 31.7.71, re-regd DQ-FAF.
- VQ-FAG Piper J3C-65 Cub 9538 12.5.48  
Ex 43-677. L.W. Tarr & A.W. Brown. Canc 25.11.49 (file in UK says 9.12.50 but this appears to be date of notification received from Fiji) and regd ZK-ATU to L.W. Tarr & Ptnr with whom it is still current. Left on board 'Aorangi' 5.11.49.



From top: VQ-FAF(2) in later colour scheme (M.W. Prime); VQ-FAD(2) in N.H.A./U.M.A. colours at Bankstown 13.7.64 (Bob Neate); a rare airborne shot of VQ-FAG(2) (M.W. Prime);

VQ-FAG (2) DH.82A Tiger Moth 83502 24.8.65  
Ex ZK-AIE, NZ678, T5773. Assembled by DHNZ Ltd at Rongotai after arrival on 'Rangitata'. Declared surplus 11.46 and sold to New Plymouth Aero Club, twice rebuilt using parts of RAAF Tigers A17-74 and A17-330. Arrived Fiji 8.65 and regd to Nausori Flying Group. Dismantled 1970 and lay at Nausori until shipped to Christchurch NZ in 1973/4. Although officially re-regd DQ-FAG it never wore the marks.

VQ-FAH Grumman G-21A Goose 1126 26.1.49  
Ex NC68377, BuA 66334, FP476, (BW779), (BuA 0182). South Seas Marine Products Ltd. Shipped to USA on 'Alameda' 21.9.50 after company failed, canc 7.10.50 on sale to Macdonald Construction, to Bahamas Airways as VP-BAR 10.51 but damaged 55-6 and sold to Miami as N68377 in 1956.

VQ-FAH (2) DHA-3 Drover 2 5020 5.8.65  
Ex VH-AHZ. New Hebrides Airways Ltd, re-regd VP-PAE 1.6.66, then sold to Pastoral Aviation as VH-PAB, 2.2.68.

VQ-FAH (3) Douglas C-47B 34227 22.5.67  
Ex ZK-APK, ZK-AOK, NZ3556, 45-9662. Leased from NZNAC by Fiji Airways Ltd. Reverted to ZK-APK ex-Fiji 2.10.67 and later sold to Fieldair Ltd.

VQ-FAI PA-11 Cub Special Floatplane 11-894 8.8.49  
South Seas Marine Products Ltd. Sold as VH-AKD, regd 1.51, leaving on 'Sembua' 15.9.50.

VQ-FAI (2) Douglas C-47A 18923 6.6.66  
Ex ZK-CAW, VH-ANM, 42-100460. With Queensland A/W 9.56, Ansett ANA 7.12.58, NZNAC 9.61, 'Viewmaster' conversion. Leased to Fiji Airways Ltd, d/d 4.6.66 reverted to ZK-CAW 7.8.69, later to Fieldair Ltd.

VQ-FAJ Aeronca 100 AB.105 4.2.50  
Ex VH-UXV (regd 3.38, canc 11.49). G.J. Webster. To J.P. Meehan, Lautoka 11.11.50, cr on golf course at Singatoka 1.51 and sold to T.A. Sanders, Nandi, on 20.2.52. Shipped to NZ on 'Argentinian Raafar' for Colin Feldwick on 28.10.65 but apparently not regd in NZ although ZK-AYW reputedly reserved.

VQ-FAK Cessna 170 Floatplane 19580 21.2.51  
Ex N5553C. H. Gatty. Broke away from moorings and wrecked in storm, Katafanga Island, 24.6.51.

VQ-FAL DH.89A Dragon Rapide 6707 21.8.51  
Ex G-ALWP, HG722. UK C of A 10892, with Allen Aircraft Services Ltd 23.1.50, C.W.J. Allen 4.5.50, Airwork Ltd 23.8.50, W.S. Shackleton 4.6.51, canc 28.6.51. Regd to Katafanga Estates Ltd, t/a Fiji Airways. Cr at Lambasa after engine failure on take-off, 26.4.54.

VQ-FAL (2) DH.114 Heron 1B 14033 24.3.59  
Ex VH-GVH, ZK-BEQ, ZK-BBO. First regd to NZNAC on 27.10.53, re-regd 8.12.53 for Royal Tour of NZ, to Southern Airlines, Essendon 26.1.58, Qantas 6.1.59, canc 10.8.59. Fiji Airways Ltd. W/o at Ura, Taveuni 11.12.65, wreck still there in 1972.

VQ-FAL (3) HS.748-233 1613 7.67  
Fiji Airways Ltd, d/d 11.9.67. To Air Pacific 31.7.71, re-regd DQ-FAL.

VQ-FAM DH.89A Dragon Rapide 6471 11.2.52  
Ex G-AKSH, R5934. UK C of A 9962, with Brooklands Aviation Ltd 31.1.48, W.S. Shackleton 15.11.51, canc 22.11.51. Regd to Katafanga Estates Ltd, t/a Fiji Airways. C of A expired 17.3.55, wfu and used as spares for VQ-FAN.

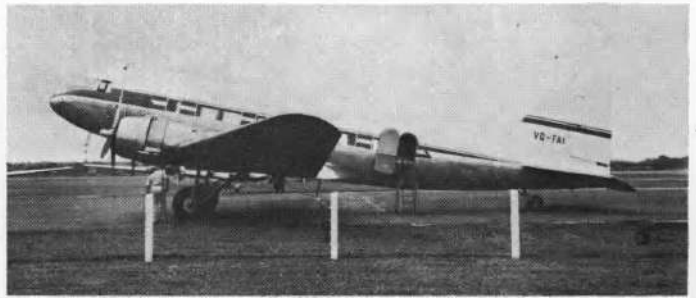
VQ-FAN DH.89A Dragon Rapide 6577 20.2.53  
Ex G-AKOR, X7417. UK C of A 9918, with W.A. Webb 31.12.47, Morton Air Services 9.3.48, J. Mowlem & Co Ltd 5.5.48, Morton A/S 11.7.49, Skyways Ltd 25.5.50, W.S. Shackleton 5.5.52, canc 4.12.52. Regd to Katafanga Estates Ltd, t/a Fiji Airways. Sold to New Caledonia, leaving on 'Thors Isle' 9.10.56 and regd F-OAZT 12.7.57, W/o 13.12.58.

VQ-FAO DHA-3 Drover 2 5005 15.7.54  
Ex VH-EBR, Qantas 9.4.51. Katafanga Estates Ltd, t/a Fiji Airways, d/d 11.6.54. Forced landing on a reef off Telau Island 28.8.54 and canc 23.11.54 due to salt water corrosion.

VQ-FAP DHA-3 Drover 2 5009 6.7.54  
Ex VH-EBT, Qantas 31.10.51. Katafanga Estates Ltd, t/a Fiji Airways, d/d 11.6.54. Sold to TAA as VH-ADN 8.61.

VQ-FAQ DHA-3 Drover 2 5008 11.1.55  
Ex VH-EBS, Qantas 19.9.51 (but not canc until 3.3.55). Katafanga Estates Ltd, t/a Fiji Airways, d/d 15.10.54. W/o Waivatumbuso Gorge 30.12.55.

VQ-FAR DHA-3 Drover 2 5015 23.4.56  
Ex (VH-EAY). Katafanga Estates Ltd, t/a Fiji Airways. Wfu 19.10.67 and donated to the Derrick Technical Institute, Suva. Removed to Nausori 1972.



VQ-FAI(2) shortly after commencement of lease and still without titles. Larger Viewmaster windows are clearly visible (Des White); VQ-FAL(2) in original colour scheme (R Killick); VQ-FAL(3) showing modified titles used on HS.748 (P Keating); VQ-FAP at Nausori 8.60 (R Killick).

VQ-FAS DHA-3 Drover 2 5016 6.7.56  
Ex (VH-EAX). Katafanga Estates Ltd, t/a Fiji Airways. Leased to New Hebrides Airways and sold to them 11.12.62, re-regd VP-PAC 1.6.66, wfu and canc 7.67, to spares.

VQ-FAT DH.83 Fox Moth 4033 10.4.57  
Ex ZK-AEK, G-ACDD, OO-ENC, G-ACDD, G-ACAJ. First regd to F/L E.H. Fielden 19.11.32 as CAJ, re-regd CDD 6.12.32, to deH 22.3.33, to Guy Hansez as OO-ENC 12.33 (see p.37), to deH 14.6.35, to Malcolm & Farquharson Ltd as CDD 25.6.35, to Air Travel (NZ) Ltd as AEK 18.10.35, NZNAC 1.10.47, W.K. Wakeman 1.10.53, C.A. Wornall 13.9.54, B.N. McCook 26.3.57 and canc 1.4.57. Regd in Fiji to B.N. McCook and arrived on board 'Matua' 4.57. C of A suspended at Nausori 29.10.57 due to deterioration of a/c which was parked in the open. Engine and propellor shipped back to NZ 9.59. Canc 26.11.59.

VQ-FAU PA-18 Super Cub 150 18-5591 17.4.59  
Ex ZK-BQW. Air Viti Ltd. Repossessed, leaving on 'Matua' 12.8.59, believed canc 3.60. May have reverted to ZK-BQW but unlikely, to ZK-BWG 3.60.

VQ-FAV PA-22 Caribbean 150 22-6936 2.10.59  
Ex N2962Z. Korolevu Air Transport. Arrived on 'Montrey' 25.9.59 reportedly as 'N91630Z'. To Fiji Airways 31.7.61, wfu 7.12.66 and donated to the Derrick Technical Institute, Suva. Broken up 1972.

VQ-FAW DH.82A Tiger Moth DHNZ.106 6.12.58  
Ex ZK-AUP, NZ1426. First regd to Aerial Fertilising Co Ltd 4.7.49, to Taranaki Aerial Services Ltd 10.12.56. Regd to Air Viti Ltd but wfu and canc 8.60, parts used to service VQ-FAG.





VQ-FAX used for spares Nausori 3.67 (Des White)

VQ-FAX DH.114 Heron 1B 14012 24.2.59  
Ex VH-GVI, ZK-BBN. First regd to NZNAC 22.4.53, to Southern Airlines as GVI 4.3.58, Qantas 5.1.59 but not canc until 10.8.59. Fiji Airways Ltd. Dbr Suva 9.11.66, used for fire fighting practice, Nausori.

VQ-FAY DH.114 Heron 1B 14011 1.11.60  
Ex ZK-BMB, NZNAC 20.3.53. Fiji Airways Ltd, based for some time at Tarawa, Gilbert & Ellice Islands. To Air Pacific 31.7.71, re-regd *DQ-FAY*.

VQ-FAZ DH.89A Dragon Rapide 4 6886 27.10.60  
Ex VH-BFS, G-AGSI, NR810. UK C of A 7206, with Olley Air Services 25.7.45, British Transport Commission 16.2.53, Cambrian Air Services 19.2.53, W.S. Shackleton 21.4.54, to Queensland Ambulance Transport Brigade 28.10.54, canc UK 16.2.55, VH-BFS 2.55, canc 5.60. Regd to New Hebrides Airways Ltd but on inspection after arrival found to be unuseable and subsequently wfu. Canc 5.62.

VQ-FBA Beech 95-C55 Baron TE-352 6.67  
Ex N2715T. Air Pacific Ltd to Fiji Air Services and re-regd *DQ-FBA*. Named 'Te Tahine'.

VQ-FBB PA-25 Pawnee 235 25-2342 10.67  
Ex ZK-BZL, d/d to Aerial Farming Holdings Ltd 5.12.63 taken over by James Aviation Ltd 7.7.65 and transferred to Airspray Aviation Ltd 28.8.67 but still wore James titles when re-regd in Fiji. Regd to Air Pacific Ltd, canc 12.6.68 on sale as VP-PAI, canc 11.68 to Hazleton Air Services as VH-EVZ.

VQ-FBC Grumman G.73 Mallard J-13 2.69  
Ex ZK-CDV, VH-TGA, (VH-KWB), JZ-PCB, PK-AKG, CF-FFG. Last owners Utah-Williamson-Burnett, Invercargill, NZ Government Gift aircraft. Regd to Air Pacific Ltd but canc 31.3.71 on sale to Crow Avn, Ohio as N2442H departing Fiji 14.4.71. Named 'Na Secala'.

VQ-FBD Victa Airtourer 115 R151 3.68  
Ex ZK-CMB (rebuilt). Air Pacific Ltd, leased to Fiji Aero Club, to B.Gee 5.71, to Fiji Flying Club 3.6.71 and re-regd *DQ-FBD*.

(VQ-FBE) Registration believed to be intended for a second Victa Airtourer 115 for Air Pacific but not taken up. Late allocation of marks to the Baron VQ-FBE may tend to confirm this supposition.

VQ-FBE Beech 95-E55 Baron TE-783 1.70  
Ex N3635A. Air Pacific Ltd d/d 23.3.70, f/f as FBE 5.5.70 Departed Fiji 25.2.71 and sold in USA as N111FC.

VQ-FBF Douglas C-47B 15699/27144 10.67  
Ex ZK-AZA, NZ3531, 43-49883. Fiji Airways Ltd, lsd from NZNAC, d/d 10.10.67. To Air Pacific 31.7.71 and re-regd *DQ-FBF*.

VQ-FBG Beech 95-D55 Baron TE-478 4.6.68  
Ex VH-DLZ, N7033N. From Hawker de Havilland (Beech distributors). Air Pacific Ltd, d/d 1.6.68. Sold to Macair Charters as VH-MKO departing Fiji 22.3.71, later P2-MKO and P2-GKO with Talair.

VQ-FBH HS.748-233 1661 11.68  
Fiji Airways Ltd, d/d 8.12.68. To Air Pacific 31.7.71 and re-regd *DQ-FBH*.

VQ-FBI PA-22 Colt 108 22-9457 30.8.68  
Ex VH-KFI, VH-PIQ. With Hazair Agricultural Services 24.6.63, Hazair Sales & Service 1.3.64, Kingsford Smith Flying Services 28.4.65 and re-regd KFI. Regd to Fiji Trading Co Ltd (T.F. French), re-regd *DQ-FBI*.

VQ-FBJ Douglas C-47B 16151/32899 6.69  
Ex ZK-AOF, NZ3539, 44-76567. Fiji Airways Ltd, lsd from NZNAC, d/d 9.6.69. To Air Pacific 31.7.71 and re-regd *DQ-FBJ*.

VQ-FBK HS.748-233 1665 8.69  
Fiji Airways Ltd, d/d 6.10.69. To Air Pacific 31.7.71 and re-regd *DQ-FBK*.

VQ-FBL Bell 47J-2 2627 12.69  
Ex VH-INV of Airfast Services Ltd. Regd to Airfast Ltd, Sydney. Re-regd *DQ-FBL*.

VQ-FBM PA-28 Cherokee 140 28-20903 30.12.69  
Ex VH-IAW, VH-PYK. From Air Training, Bankstown. Regd to O.W. Marshall, Vatukoula, test flown 1.3.70. Re-regd *DQ-FBM*.

VQ-FBN Bell 47G-4 3337 27.1.70  
Ex VH-UTQ of Helicopter Utilities. Airfast Services Ltd, nominally re-regd *DQ-FBN* 1.10.71 but damaged in f/1 3 mls S of Nausori 6.10.71 and shipped back to Australia where rebuilt as VH-UTQ.

VQ-FBO BN-2A Islander 195 24.3.71  
Ex VH-ISB, G-AYHL, G-51-195. Britten-Norman Ltd 22.7.70, canc 27.10.70 to Islander Aircraft Sales. Fiji Air Services Ltd, t/a Fiji Air, arrived 19.3.71 and leased until 21.8.71 purchased 2.72. To *DQ-FBO*.

VQ-FBP BN-2A Islander 614 7.71  
Ex G-AYAY, Britten-Norman Ltd 6.4.70, canc 16.12.70 to Australia. Fiji Air Services Ltd, t/a Fiji Air, arrived 3.7.71, re-regd *DQ-FBP*.

(VQ-FBQ) No record traced but may have been allocated to BAC One-Eleven c/n 245 which became *DQ-FBQ* before delivery.

VQ-FBR Cessna 172L 59729 1.71  
Ex N9829G. Rex Aviation (NZ) Ltd. Arrived painted as VQ-FBR but re-regd *DQ-FBR* before being flown in Fiji.

This was the final entry in the colonial register, the complete *DQ*-register follows in the next edition of *Archive*.



VQ-FBA, B, C and D all M.W. Prime

## Air-Britain Digest

Digest is the bi-monthly journal of Air-Britain and is a fully illustrated A4 size magazine devoted to virtually anything about which our membership wishes to write. The mainstay of each issue is one or more fully-researched articles either on historical subjects or on activities of a current flavour. Over the past eighteen months some of the topics featured have been as follows: Running over four issues to date has been *Built in Belgium*, an historical feature describing aircraft that have been designed or built in Belgium. Perhaps the best-known type that springs to most aviation minds is the Stampe SV-4 biplane and this has received detailed treatment. Covering both ancient and modern have been detailed Airline histories of Lufthansa (an Air-Britain Corporate Member), Air New Zealand and a fascinating review of Third-Level Airlines in the Canadian Pacific region, where many floatplanes are used. More specialist articles have appeared on the American 401st Bomb Group, Norwegian Vampires, Flying Fleas in Britain during 1935/36, a detailed history of the Canadian Fleet 7C in the UK and many more. Showing the International spread of our members who contribute to Digest pages were a report on the Airports in Punta del Este, South America and an Air Fair in Chile. Reports of major International aviation events naturally include illustrated reviews of the Hannover and Farnborough Shows (and also Paris Salon in the alternating years) and coverage was also given to the NBAA Convention in Kansas City. As well as feature articles Digest contains news and views of the vast membership and takes advantage of the photographs submitted from around the world. Justice is done to these contributions by the use of good quality glossy paper.

As a taste of the type of Digest content we are reproducing in this Booklet the feature on the Kramme & Zeuthen aircraft which inspired the formation of the Danish KZ Club who so admirably supported the 1980 Fly-In at Old Warden.

# The KZ Line

A representation, slightly updated by John Cook, of Hans Kofoed's original article in 'Digest' for May and June 1958.

In the mid-1930s Henri Mignet's Pou du Ciel was being built all over Europe (albeit that the design subsequently fell into disrepute) and Denmark was no exception. The Danish newspaper Berlingske Tidende placed an order for one example, with a former Danish Naval Air Service mechanic, Viggo Kramme, who opened his workshop at Copenhagen's Kastrup airfield on 1 April 1935. The Pou was the first of approximately 200 aircraft which Kramme was to design and manufacture with Karl Zeuthen, a graduate of the Copenhagen Technical High School.

The pair's first collaborative venture was the KZ 1, an all-wood, single-seat low-wing monoplane, powered by a 38hp ABC Scorpion engine and first flown at Kastrup on 24 February 1937. Only the prototype was built but the two young men attracted the attention of Gunnar Larsen, chairman of Danish Airlines DDL and managing director of the engineering company F L Smidth and Co A/S, which concern provided financial backing for the formation of Skandinavisk Aero Industri A/S on 1 August 1937. Viggo Kramme became general manager and Karl Zeuthen chief engineer.



KZ IIT OY-FAE at Stauning in original, non-canopied state (A J Clarke).

The new company's first product was the KZ II Kupe, in appearance an enlarged KZ1 but seating two side-by-side under a transparent canopy. The wings were wood with fabric covering but the fuselage featured steel tube construction, again with fabric covering. Arvid Hansen flew the 90hp Gipsy Minor-engined prototype OY-DAN at Kastrup on 11 December 1937 and almost a year later on 10 October 1938, Thorkild Petersen flew OY-DAP, the prototype of an open-cockpit tandem two-seat version, known as the KZII Sport, which was powered by a 105hp Hirth 504A engine.

Having outgrown the Kastrup premises, SAI moved to Aalborg, taking over a factory already owned by the F L Smidth Group, where the KZII continued in production, orders including one for four KZII S aircraft placed by the Naval Air Service in 1940. They were seized by the Germans after the invasion of Denmark on 9 April 1940 and, following an abortive attempt to force the company to manufacture



KZ II Kupe OY-DHK at Redhill in September 1974, currently owned by Simon Skott (J C Cook).

spares for a German trainer aircraft, activities were diversified into non-aeronautical ones such as the production of electrically-propelled vehicles and film projectors.

In 1943, a further move took place, to Hellerup on the northern outskirts of Copenhagen where the KZ G.1 single-seat primary glider was designed and built. Registered OY-54, it was first flown at the Bjergsted soaring site in September 1943.

In that same year work started on the design of the KZ IV twin-engined air ambulance for the Zone Redningskorpset organisation. Powered by two 130 hp Gipsy Major I engines and providing accommodation for two pilots, two stretcher cases and two attendants, the prototype KZ IV OY-DIZ was first flown on 4 May 1944. A second aircraft, OY-DZU, was built in 1948 with 145hp Gipsy Major X engines. The air ambulance operator also figured in the development of the KZ III two-seater, the prototype of which was built and test-flown at Kastrup in September 1944. Registered OY-DOZ the KZ III was flown ostensibly as an ambulance aircraft to circumvent the German ban on flying in the country. It was powered by a de Havilland Gipsy Major engine and it exists to this day, having been re-engined with a Continental O-200 and fitted with wing tanks in 1966.

SAI was given permission to export a small number of KZ IIs to Sweden but the rail shipment included a KZ III which was registered SE-ANY and was test-flown early in 1945. This aircraft also survived and is now in the Danmarks Flyvesmuseum at Egeskov Castle, Fuener. A further 63 production KZ IIIs were built post-war, all powered by 100hp Blackburn Cirrus Minor engines. The first nine were designated KZ III U the next three were U-1 ambulance aircraft, and the main production batch of 50 were designated U-2, a single ambulance version of which was known as the KZ III U-3. At the beginning of this year 36 KZ IIIs were flying or being overhauled in Denmark and a further six were owned by KZ Club members, museums or technical colleges in Belgium, Germany, Iceland, India and Switzerland.





Peter Thompsen brought KZ III OY-AAC to Old Warden (M R Smith).

The majority of the KZ IIIs were built at Sluseholmen, a factory having been erected at the parent company's shipyard at Copenhagen's South Harbour in 1945. Final erection and test flying took place at Kastrup where an ex-Luftwaffe hangar was taken over. Post-war production included a number of KZ II trainers, developed from KZ II S but with the 145hp Gipsy Major X engine. The prototype OY-DRO flew for the first time in April 1946, at Kastrup, and sported a canopy over the tandem cockpits. 15 KZ II Ts supplied to the Danish Air Force in 1946 had open cockpits and were used for elementary training at Avno until replaced by de Havilland Canada Chipmunks in 1950. Nine survivors were sold to civil buyers. Also in course of manufacture were eight KZ II Ks (c/ns 28-35) and a KZ II S (c/n 36) which was to have been powered by a 130hp Le Blond radial and fitted with floats. All were destroyed in a fire on 17 February 1946, together with a number of KZ VIIIs (c/ns 125-134 and 136-147). The factory was abandoned and the line re-established in a second hangar at Kastrup.

The KZ VII was a four-seat development of the KZ III with a 125hp Continental C-125 flat-four engine. The prototype OY-DUE was flown by Karl Kramme at Kastrup on 11 October 1946 and a further 56 were subsequently built, including ten for the Royal Danish Air Force. Production ceased late in 1947 with some 30 aircraft unsold and requiring completion, the last leaving the factory in 1954. Production versions included the U-5 with floats and the U-8 with a 145hp Continental C-145-2 engine driving an Aeromatic constant-speed propeller (a model developed for the Swiss market). With 75 litre fuel tanks instead of the original 65 litre tanks of the early models, the U-8 became the U-9 or the U-10 when on floats.

F L Smidth's financial support was withdrawn in 1947 and the aircraft manufacturing company (which had been re-formed as KZ Aero A/S in 1943) was bought by Messrs Kramme, Zeuthen and Hartung and the SAI name restored, the firm's main activity becoming civil and military aircraft overhaul.

A return to original design and manufacture came in 1949 when SAI built the KZ VIII single-seat aerobatic aircraft, to the order of Sylvest Jensen for his Flying Circus. Karl Zeuthen flew the aircraft, registered OY-ACB, at Kastrup on 14 November 1949 and it was later sold to aerobatic champion Arnold Wagner in Switzerland as HB-EPB before being imported into the United Kingdom by Bob Mitchell to become G-AYKZ. Components for a second aircraft were sold to Germany where the completed KZ VIII eventually appeared as D-EBIZ. It is currently owned by Arne Boyen and flies as OY-DRR.

A replica of J C Ellehammer's 1909 Standard monoplane was similarly built for Sylvest Jensen who flew it at Kastrup on 14 March 1950. Registered OY-ACE, it was powered by a 1920-vintage ADC Cirrus engine. Withdrawn from use in 1960, the aircraft was not officially cancelled until March 1979 and is currently awaiting restoration.

The last of the KZ line, the KZ X was developed from the KZ VII for AOP duties with the Danish Army. It retained the 145hp Continental of the "Swiss" KZ VII but carried pilot and observer in tandem seats and incorporated deepened and bulged cabin windows. Karl Zeuthen flew the prototype OY-ACL at Kastrup on 29 September 1951 and 12 were delivered to the Danish Army during 1952. Accidents led to a grounding and a lengthy design and structural investigation at the Royal Aircraft Establishment at Farnborough completed in 1957.



The original KZ IV OY-DIZ at the 1975 Stauning rally in June 1975 (John G Scott).



Jens Toft's immaculate KZ VII OY-AAV at Old Warden (M R Smith).

Although no basic deficiencies were found minor airframe modifications were recommended but the Army had received Super Cubs for the AOP role and modification for the surviving KZ Xs was not considered to be an economic proposition and they were scrapped. In 1953 the prototype had been fitted with a wing increased in span by almost 38 inches and with enlarged tail surfaces to become the sole KZ X Mk 2, re-registered as OY-AOL and flown as such today by Jaimes Nielsen at Silkeborg.



KZ VIII D-EBIZ was a Lockheed Trophy competitor at Baginton (J C Cook).

## KZ Production List

1	Pou du Ciel	Broken up 1938
2	I OY-DYL	Seized December 1943
3	IIK OY-DAN	Seized December 1943
4	IIK OY-DYP	Seized December 1943
5	IIK OY-DYM	Crashed 4.10.39 at Hvidsten
6	IIK OY-DAR	Seized December 1943
7	IIK OY-DIR	Seized December 1943
8	IIK OY-DEN	Sold as HB-EPU
9	IIK OY-DER	Crashed 25.6.39 at Kastrup
10	IIS OY-DAP	Seized December 1943
11	IIS OY-DAU	Sold as SE-APU, crashed 30.7.46
12	IIS SE-AKA	Crashed 2.5.54 near Linköping
13	IIS OY-DOU	Sold as SE-ANM. Now at Egeskov Museum
15	IIS OY-DUV	Seized December 1943
16	IIS —	Seized December 1943
17	IIS (OY-DAY)	Became SE-ALO. Crashed 16.8.50 at Vainas
18	IIS —	Seized December 1943
19	IIS —	Seized December 1943
20	IIS —	Seized December 1943
21	IIK OY-DOV	Seized December 1943
22	IIK SE-AIO	Sold as OH-KZS. Crashed 22.7.53
23	IIK (OY-DEY)	Sold as SE-ANN, then OY-DHK
24	IIK OY-DIY	Seized December 1943
25	IIK OY-DOY	Seized December 1943
26	IIK —	Seized December 1943
27	IIK (OY-DUY)	Sold as SE-ANR, then OH-SPJ, OH-KZT, OY-AEA
28-		
36		Destroyed in course of manufacture in factory fire 17.2.47



Simon Moos has the ex-RDAF KZ IIT OY-FAK, seen at Old Warden with non-standard canopy (M R Smith).

37	IIT	OY-DRO	Crashed 28.5.49 at Beldringe
38	IIS	61	Navy. Seized 1940
39	IIS	62	Navy. Seized 1940
40	IIS	63	Navy. Seized 1940
41	IIS	64	Navy. Seized 1940
42	III	OY-DOZ	
43	IV	OY-DIZ	
44	G-1	OY-54	Became OY-ASX
45	III	SE-ANY	Now in Danish Aviation Museum
46	III	OY-DBY	Crashed 16.1.49 at Jyderup
47	III	SE-APT	Sold as OY-DGV
48	III	OY-DHA	Sold as LN-DAN, withdrawn from use after crash 1959
49	III	SE-APE	Crashed 8.7.48 at Karlstad
50	III	50	RDAF. Became 62-611, OY-ACT
51	III	51	RDAF. Became 62-612, OY-ACG
52	III	SE-ASH	Sold as OY-ANY, broken up
53	III	OY-DKA	Crashed 21.5.47 at Lundtofte
54	III	OY-DHI	Sold as D-EDUD, OY-DEJ
55	III	OY-DHY	
56	III	OY-DYZ	Sold as D-EFID, OY-DYZ. Withdrawn from use 1972
57	III	OY-DUZ	Lost on ice 15.2.56 off Rosnaes
58	III	OY-DMA	Crashed 12.4.51 at Farum
59	III	OY-DKE	Crashed 22.8.46 at Avedore
60	III	OY-DKI	Crashed 27.7.48 at Altbreisach
61	III	OY-DKO	
62	III	OY-DSU	Crashed 28.9.59, Arzberg, Austria
63	III	LN-FAT	Sold as OY-ABA
64	III	OY-DSI	Sold as D-EDEP, OY-DSI
65	III	OY-DSO	
66	III	OY-DZA	Withdrawn from use 1969
67	III	OY-DME	
68	III	OY-DHO	Collided with radar mast at Yding Skovkoj 1.2.53
69	III	OY-DSY	Sold as D-EHPE
70	IV	OY-DZU	Painted as SE-EGX March 1971 for sale to Altair Aerial Surveys, Södertälje but sale did not proceed and restored as OY-DZU July 1972
71	III	OY-DTE	Crashed 24.5.75 at Odense Airport
72	III	OO-MAA	Now in Brussels Museum
73	III	OY-DTA	
74	III	OY-DVA	Sold as D-ENYL, OY-DVA
75	III	OY-DVI	Sold as D-ECOT, OY-DVI
76	III	OY-DVO	
77	III	OY-DZE	Sold as D-EGIR, OY-AFF
78	III	VT-CJR	Used for technical training
79	III	OY-DIA	Withdrawn from use 1973
80	III	OY-DHU	Sold as D-EHUT
81	III	OY-DVU	
82	III	OY-DAB	
83	III	OY-DBU	Destroyed in hangar fire at Nakskov 23.8.51
84	III	OY-DVE	Withdrawn from use 1973
85	III	OY-DVY	Crashed 11.6.58 near Kerteminde
86	III	TF-KZA	
87	III	OY-DAE	Sold as D-EHYC, OY-DAE
88	III	OO-KIM	Withdrawn from use
89	III	OY-DAA	
90	III	VR-SCH	Became VR-RBK, VR-OAD, 9M-AMF, OY-DMB
91	III	OY-AAT	
92	III	OY-DEE	Crashed 6.8.70 near Vorbasse
93	III	OY-DEA	
94	III	OY-DEB	Sold as D-EJUM, OY-DEB
95	III	OY-DIB	Crashed 20.5.51 at Varde
96	III	OY-DIE	Lost 22.2.58 in Store Baelt
97	III	OY-DOA	Crashed 21.11.67 near Herning
98	III	OY-DOB	Crashed 7.7.66 at Klemensker
99	III	OY-DOE	
100	III	OY-DUA	Crashed 19.8.56 at Herning
101	III	OY-DUB	Crashed 16.8.65 at Mors
102	III	OY-DYB	Sold as SE-AZY
103	III	OY-DUI	Sold as D-ECUF, OY-DUI, withdrawn from use 1975
104	III	OY-AAA	Crashed 25.3.51 at Sdr Omme
105	III	OY-DMO	
106	III	OY-ECR	
107	III	OY-DKU	
108	III	OY-AAC	
109	IIT	109	RDAF. Became 101. Sold as OY-FAT
110	IIT	110	RDAF. Became 102. Sold as OY-FAN, withdrawn from use 1976
111	IIT	111	RDAF. Became 103. Sold as OY-FAM, crashed 20.8.67 Stanning
112	IIT	112	RDAF. Became 104. Sold as OY-ADE, crashed 13.12.59 near Haderslev
113	IIT	113	RDAF. Became 105. Sold as OY-ADM, crashed 26.3.64 at Karap
114	IIT	114	RDAF. Became 106. Sold as OY-FAY, crashed 23.3.69
115	IIT	115	RDAF. Became 107. Sold as OY-FAK
116	IIT	116	RDAF. Crashed 18.9.46 near Glumstøp
117	IIT	117	RDAF. Became 109. Sold as OY-FAG, broken up 1972
118	IIT	118	RDAF. Became 110. Crashed 30.8.47 at Svino
119	IIT	119	RDAF. Became 111. Sold as OY-FAE
120	IIT	120	RDAF. Crashed 27.2.47 at Baarse
121	IIT	121	RDAF. Became 113. Crashed 6.5.49 at Avno
122	IIT	122	RDAF. Became 114. Crashed 28.6.50 at Avno
123	IIT	123	RDAF. Became 115. Crashed 13.6.49 at Skovlunde
124	VII	OY-DUE	Crashed 27.2.47 at Skovlunde
125-			
134			Destroyed in course of manufacture in factory fire 17.2.47
135	VII	OY-SAI	



KZ X OY-AOL at Stauning in June 1975 (John G Scott).

136-			
147			Destroyed in course of manufacture in factory fire 17.2.47
148	VII	OY-AAN	Sold as G-AJHM, F-BFXA. Withdrawn from use 1966
149	VII	OO-AAB	Sold as D-EBTO
150	VII	OY-AAR	Destroyed in hangar fire at Nakskov 23.8.51
151	VII	G-AJZV	Crashed 20.12.47 at Manston
152	VII	OY-AAP	Withdrawn for use 1973
153	VII	OY-DKY	Sold as D-EGIF. Crashed 1961
154	VII	OY-DZO	Sold as D-EDUC, OY-DZO. Crashed 18.9.68, Lüneberg, Germany
155	VII	OY-AAS	Sold as D-EMES, OY-AAS
156	VII	OY-AIR	Sold as TF-JON
157	VII	OY-AAD	
158	VII	OY-AAU	
159	VII	OY-DTY	Sold as D-EGAH
160	VII	OY-AAV	Sold as D-EHED, OY-AAV
161	VII	OY-ABB	Crashed 2.9.70 near Silkeborg
162	VII	OY-ABD	Crashed 6.6.55 at Jordløse
163	VII	LN-RAE	Sold as OY-DML
164	VII	OY-ABF	
165	VII	OY-AAZ	
166	VII	OY-ACO	
167	VII	OY-ABG	
168	VII	OY-ABC	Sold as OH-KZE
169	VII	OY-ABH	Crashed 3.4.50 at Hillerød
170	VII	OY-ABK	Crashed 3.7.60 at Skagen
171	VII	OY-ABL	Sold as D-EABE
172	VII	OY-ABM	Sold as ZS-BXX, OY-ABM, D-EFIF
173	VII	OH-KZA	Crashed 25.8.57 at Oritkari
174	VII	HB-EPZ	Sold as D-ECOC, OY-DMJ
175	VII	OY-ABR	Sold as OH-KZD
176	VII	63-615	RDAF. Became OY-AVR
177	VII	OY-ACC	Sold as D-EDOP, OY-ACC. Crashed 16.8.75 at Trundholm
178	VII	63-616	RDAF. Became OY-ATI
179	VII	63-617	RDAF. Destroyed by fire 19.6.49 at Lundtofte
180	VII	63-618	RDAF. Destroyed by fire 27.4.67 at Kastrup
181	VII	63-619	RDAF. Became OY-ATM
182	VII	63-620	RDAF. Became OY-ATK
183	VII	63-621	RDAF. Withdrawn, used for technical training
184	VII	63-622	Withdrawn 1966, preserved as museum aircraft
185	VII	OH-KZF	Sold as D-EJAB. Withdrawn from use 1966
186	VII	63-623	RDAF. Became OY-ATJ
187	X	63-624	RDAF. Sold as spares to KZ & Veteranflyklubben in 1974
188	VII	HB-EPS	
189	VII	HB-EPX	Crashed 29.8.61
190	VII	HB-EPW	Crashed Glasbrunn 20.1.55. Rebuilt
191	VII	HB-EPT	Sold as OY-DSB
192	VII	HB-EPV	Sold as D-EKOF
193	VII	HB-EPP	
194	VII	HB-EPR	Crashed Fellarigletscher 4.3.53
195	VII	OH-KZC	
196	VII	OH-KZH	
197	VII	LX-AIT	Sold as D-ENIM, OY-AVK
198	VII	OH-KZB	Sold as OY-DZB
199	VII	OH-KZG	Sold as HB-EPA, D-EKID, OY-STJ
200	VII	OY-ACH	
201	VII	OH-KZI	Sold as SE-COK, crashed 14.8.61
202	VIII	OY-ACB	Sold as HB-EPB, G-AYKZ
203	VIII	D-EBIZ	Sold as OY-DRR
204		OY-ACE	Ellehammer replica. Withdrawn from use 1960
205	X	OY-ACL	Re-registered OY-AOL as KZ X Mk2
206	X	65-631	Scrapped 1960
207	X	65-632	Crashed 9.8.52 at Avno
208	X	65-633	Scrapped 1960
209	X	65-634	Scrapped 1960
210	X	65-635	Scrapped 1960
211	X	65-636	Crashed 19.2.53 at Frederikssund
212	X	65-637	Crashed 25.3.54 at Sjaelsmark
213	X	65-638	Scrapped 1960
214	X	65-639	Scrapped 1960
215	X	65-640	Scrapped 1960
216	X	65-641	Scrapped 1960
217	X	65-642	Crashed 27.12.57 at Farnborough
218	X		Not completed
219	X		Not completed





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Information Service

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# AIR pictorial

## Your Questions Answered...

... by AIR-BRITAIN via its over 150 Information Specialists and Aviation Research Groups. Will readers please confine their enquiries to one specific subject, and note that information cannot be supplied separately by post. Unidentified rare photos welcomed for comment — Ed.

### Astafan Commander

**Q:** Have you any information on Rockwell Jet [sic!] Commander, F-BSTM, powered by Turbomeca Astafans?—N. Start, Sheffield.

**A:** The Astafan Commander operated by Turbomeca is officially known as an Aero Commander 680-VTU, with identification c/n. 1540-6. The aircraft was originally N6300 before appearing on the British register as G-AWXX. When re-engined by the French engine manufacturers the aircraft first flew as F-WSTM on 8th April 1971, the 'W' denoting a provisional test registration. Engines were two Astafan IIAs, empty weight being 2,994 kg., with two crew and three passengers, and all-up weight 4,264 kg.

The C. of A. was obtained on 30th August 1972, the aircraft thus becoming F-BSTM. It is current with Turbomeca and based at their factory at Pau.

Of interest is another conversion, Aero Commander 690ATU F-BXAS, also operated by Turbomeca with two Astafan IV-F 6s and an a.u.w. of 4,650 kg. (one pilot and seven passengers). The aircraft, c/n 11240, was registered on 19th March 1975, having first been flown on the 7th of the same month as F-WXAS. —Jean-Pierre Dubois, French Aviation Research Group.

### Cleave, Cornwall

**Q:** Please publish a history of the service use of Cleave airfield.—K.S. West, Bournemouth, Dorset.

**A:** Situated on the north coast of Cornwall near Bude, Cleave was used throughout its whole wartime life as a landing ground for aircraft working with a Royal Artillery Practice Camp. Work on the site started in February 1939 and the original idea was to prepare an LG for a summer camp only. This was enlarged upon and in October contractors began work on a permanent hatted camp.

The LG was completed in July 1939; a crane had been erected by 27th June while a catapult for radio-controlled target aircraft was completed two days later. Surprisingly enough a Station Headquarters was formed on 1st June 1940, long after the arrival of the first flying units. A new Queen Bee Flight, known as 'V' Flight, No. 1 A.A.C.U., had been formed at Henlow. 'G' Flight of the same unit had also been formed and was temporarily moved to Usworth. Advance parties from each of these Flights arrived at Cleave on 8th May 1939. Tentage and Bessoneau hangars were erected on the south side for the main parties, which arrived a week later. The Queen Bee and 'G' Flights co-operated with the R.A. Practice Camp during the summer of 1939. 'G' Flight carried out flying co-operation at Weston Zoyland using Wallaces on the Watchet (Somerset) ranges. Launches of the Queen



Aero Commander 680 VTU used by Turbomeca to test their Astafan IIA engines. Seen shortly after conversion to an engine testbed, in its original marks F-WSTM, it has been re-registered F-BSTM and is still in use at Pau (Photo: J.M.G. Gradidge)



Turbomeca also have another conversion, Commander 690 ATU F-WXAS (since re-registered F-BXAS) which was adapted to test their Astafan IV-F 6 and Astafan IV G engines. The latter is a refined variant and powers the Fouga 90 twin-jet trainer (Photo: Turbomeca)

Bees from Cleave were originally made by catapult but on 11th July 1939 the first take-off and landing were made from the grass. This was claimed as the first time this had been achieved in the U.K. After that catapult launches ceased.

In 1940 the *Luftwaffe* made two attacks on Cleave, damaging two aircraft. Throughout W.W.II the duties continued to be A.A. co-operation. On 1st October the lettered Flights then at Cleave were given numbers—Nos. 1602, 1603, 1604 and 1618 (QB) Flights all came into existence. In December 1943 No. 639 (A.A.C.) Squadron was formed from all the numbered Flights remaining on the station. Among the aircraft to be seen at Cleave at various times were Henleys, Wallaces, Queen Bees, Tiger Moths, Lysanders, Battles and Hurricanes. The airfield was reduced to Care

and Maintenance on 19th May 1945 and transferred from Fighter Command to the War Office in November 1945. Many years later it returned to Air Ministry control and became a satellite of No. 27 Group, T.T.C., at St. Merryn, but with no aircraft.—*Airfield Historical Research Group.*



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## Air-Britain Publications

Below we list those Air-Britain Monographs which have been published during the last twelve months or so. All are available post-free from the Sales Department, 9 Rook Close, Elm Park, Hornchurch, Essex RM12 5QH.

### UK & Ireland Civil Aircraft Registers 1981

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Price £6.00

### Squadrons of the Royal Air Force

A magnificent 379-page hard-cover book with almost 400 photographs setting out the histories of every RAF squadron from No.1 to No.1435. Histories are supplemented by tables giving dates of base changes, and all operational types used by each squadron, with their dates of service. Anyone with even a passing interest in the RAF would find this book of absorbing interest.

Price £12.50

### Airline Fleets 81

The most comprehensive pocket-size book of the fleets of the world's airlines and commuter operators. More than 900 operators in over 150 countries are listed, with full details of the aircraft operated, their constructor's numbers, previous identities and names, bases and IATA/ICAO codes. All in 282 pages.

Price £6.00

### Civil Registers of France 1981

Published with the Paris Air Show in mind, this 188-page book gives full details of all current French-registered aircraft, including gliders, experimental and French overseas-based aircraft. For the military enthusiast, there are full production list run-downs of Alouette and Super Frelon helicopters.

Price £6.00

### The Stirling File

This book provides all you ever wanted to know about the famous wartime bomber, the Short Stirling, with many rare archive photos, and complete production details for each aircraft, with units, dates and fates.

Price £4.50

### French Post-War Transport Aircraft

A 228-page tour-de-force describing in the fullest detail all the transport aircraft built in France since 1945. Profusely illustrated with many photographs never before published, over 40 different types of aircraft are included. Amongst these are, of course, the Caravelle and A300 Airbus, as well as nostalgic types such as the Languedoc, Armagnac and Martinet. Full coverage is also given to military types such as the Transall, Noratlas, Flamant and Corse. An aviation historian's delight.

Price £9.00

### Civil Registers of Africa

An epic production even for Air-Britain, featuring complete historical and current registers for 53 countries from Afars and Issas to Zimbabwe (and everything in between). No less than 384 pages plus photos.

Price £15.00

### Benelux, Switzerland & Austria Civil Registers 1981

Air-Britain once again provides the most up-to-date registers of the aircraft of these countries. 112 pages plus 76 photos, including gliders and airfield guide.

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