aeromilitaria

The AIR-BRITAIN Military Aviation Publication

REPRINT FOR 1975

As a result of many requests from members, we have reprinted the four issues of Aeromilitaria for 1975 plus the pre-production issue produced to test members' reactions to the style and content of the then-proposed publication.

At the same time, it has been decided to reprint 1976 and 1977 issues of AM for the benefit of newer members who were unable to obtain these before stocks ran out.

For convenience, we have rearranged the pages into a single volume so that items which spread over several issues now appear in sequence. We have also grouped together the title pages, type surveys and airfield histories. In respect of the first-mentioned, it should be remembered that any special offers or advices of prices only applied at the time of origin and are not current. They appear because no editing has been done on the original sheets which are reproduced exactly as they appeared.

Over the first twelve issues, the contents of AM became formalised, mainly as a result of the initial readership survey but also due to the material available from outside sources. Originally, AM was envisaged as covering any aspect of military aviation history but it soon became clear that at least 90% of the readership was primarily interested in British and Commonwealth military aviation and required this in depth. Since more generalised subjects are well covered in commercial publications, we have concentrated on the small details which would not normally be found in such publications. This is the reason for the considerable space expended on listing individual aircraft allocations and fates.

One of the continuing features in AM has been the listing of the 'L' serials. These have been omitted to save space and reduce costs in this reprint since it is planned to produce an updated monograph in the same style as the 'K', 'N' and 'P' registers. The 'K' series was produced after we had begun the 'L' series in AM and at the time AM started publication, the interest in these complete monographs was still unknown. If we had had a fully-operational chrystal ball, we would have started something else but having begun, we have carried the item through to its conclusion in AM.3/78. This also explains why we have left out the 'L' serials for the Botha and Henley items.

A couple of continuing articles spilled over to the following year and these will be found in the appropriate volume of reprints. The list of World War One presentation aircraft suffered from being transported to Australia, along with a ton of other paper, there to disappear without trace. This came to an untimely end among the F.E.2Bs.

At the time of issue of these reprints, sets of AM for 1978 were still available and consideration of a reprint for this year has been deferred until these stocks have been exhausted.

Finally, our thanks to all those who have helped to make AM a publication in its present form, not least the distribution team which took over from the editors in 1978 when subscriptions trebled. Until 1978, AM was still experimenting to find the best format that could be tackled by an ordinary typewriter in the editors' spare time. Now we think we have arrived at a satisfactory mix of cost and appearance and will try and hold it there for the future.

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The AIR-BRITAIN Military Aviation Publication

Edited by Norman B. Wiltshire and James J. Halley
Editorial address: 5 Walnut Tree Road, Shepperton, Middlesex TW17 ORW

Issue 01

What you are now looking at is a pre-production issue of Aeromilitaria, Air-Britain's new military, historical and collapsible multi-purpose quarterly. If Concorde can have a pre-production prototype, there appeared to be no reason why we could not have one too.

It resembles the ultimate goal of Aeromilitaria - hereafter referred to as "AM" to save the typing ribbon - in the same way as the prototype Spitfire resembled the Seafire 47 (or, if you have an eye for aeronautical beauty, vice-versa). This issue has been assembled from material on hand and time has not permitted many refinements thus making No.01 rather untypical.

What, do we hear you ask, is the object of AM? Primarily it is to record military aviation history in an economical form. With the ever-rising spiral of costs of paper, printing and postage, it is logical to conserve the expensive space of "Digest" for definitive and illustrated articles which interest most of our members. This leaves a wide variety of items which are more suitable for publication in a more austere form.

If Henry Ford is to be believed, History is Bunk. Which means, if true, that we can pursue our slightly dotty hobby without getting too serious about it. Other scholars and politicians tell us that we should learn from history and they have a following which believes this. Hence the Maginot Line. We think that history should be fun and, when one digs down into the detail of military activity, quite a lot of it borders on farce. Somewhere in the spectrum of historical research and recording, AM has its place - probably at the other end from Winston Churchill. The weighty discussion of strategy is not for us; we would prefer to find out what some obscure unit or overlooked type of aircraft did and join up the pieces of the jigsaw to arrive at some collective answer.

It might be suggested that AM = BMAN^2. Those members who have survived a couple of decades of Air-Britain membership will remember what British Military Aviation News started. It introduced detail and individuality to military aircraft in the same way as British Civil Aviation News had done for civil aircraft. Numerous commercial publications have since been converted to the belief that statements such as "many thousands of Hurricanes were built" were less than adequate for historical purposes. In front of us is Volume 1 of BMAN which the heading reveals was "Compiled by M.J.F. Bowyer, J. Bruce, J.D. Rawlings and P.H.T. Green". They managed to survive too but we are sure they did not realise what they were starting or how many normal suburban houses they were going to fill with paper in the next twenty years. Nevertheless, if the steady drizzle of commercial publications devoted to the subject is anything to go by, they did help the unemployment problem considerably.

It is thus in a very different environment that AM appears. The volume of military information now published commercially is vast in comparison with the 1950s but the field is wide and the sources more open. Now we can dig deeper into the detail and unearth those facts which have so far remained hidden, especially those concealed by the belief that "it has all been done before". Never believe completely anything you read. Nobody can research everything though, as amateurs, we are better placed than commercial writers. We have that valuable commodity time and if we don't pay you, we can't fire you either.

The relationship of Am to "Digest" and "ABNews" is clear. Military aviation news goes into ABNews. Articles which are suitable for Digest are consigned to its pages and those items which can be better contained in AM are included therein. It is no accident that one of the editors of AM also appears on the Digest masthead as military editor. That way there is no competition for material between the two.

Contributions to AM need not be completed research, if such a thing in fact exists. We would hope that members would add to such items when they can,or bring up their dead ends to see if someone can unblock them. AM should be a means of communication between members, not a one-way street. Our question page is one example how solutions might be found for members' queries. If there are no specialists listed dealing with a particular subject, you might get on this page. With luck, an answer might also get on it. In similar fashion, questions received by specialists which they consider would be of general interest can be given a wider audience.

The collapsible approach was adopted to enable pages to be extracted and filed according to whichever method suits members' filing systems. Or, as someone unkindly put it, if your magazine tends to fall apart, why not take credit for it? Nevertheless, the method did seem to be the best one for this type of publication and provides a method of building up records in a uniform manner without being tied down to having everything available at a particular date.

Inflation being what it is, costs are difficult to assess in advance. The number of subscribers is another variable factor. In order to have a base to work on, we are asking members for £1.50 for 1975 which will be devoted to producing four quarterly issues. We undertake to provide members with an equivalent value of paper (less postage) and the size of each issue will depend on the number of subscribers. The more there are, the larger these can be (issues, not subscribers). We must assume that the cost of paper and printing will rise but increasing numbers of subscribers can even out the unit cost. Enclosed with this issue is a subscription form which also seeks to discover our readers' interests.

If there is sufficient demand, an additional programme may be possible. At the moment there are few monographs published by Air-Britain which are of any great interest to members who are interested in military aviation. The current format requires a fairly large print run to pay for the initial preparation work. Cheaper production is possible using the same format as AM and this could be used to supplement the sheets contained in AM in some cases, e.g. when a survey of a particular type is too large to be contained in one issue of AM.

Although this issue has a large RAF content, this is due to the inclusion of material readily to hand and is not deliberate policy. There are no limits to nationality except that we would not wish to stray into areas already covered by existing specialist publications, for example the Russian Aviation Research Group's bulletin.

What AM will develop into is anyone's guess. It is being launched at the most inauspicious time possible but Air-Britain has never been famous for its logical approach to such things. Logically, it should have expired many times during the last quarter-century. It may be a case of, as someone once said, that if you can keep your head while all around you people are losing their's, then perhaps you don't understand the situation.

We want your support in 1975 to make this a success. 1975 is only weeks away and by the time the Post Office is through it will only be days away so please send your subscription in right away.

ROUNDABOUT THIS ISSUE

The Shackletons

This is the first in a series detailing the service of a specific type in one air force or command. We hope that we can extend these beyond the RAF but for openers we have chosen the venerable Shackleton 1 variants. Aided by Air-Britain's resident Shackman, Peter Howard, two tables have been compiled, one a consecutive listing of the MR.1, MR.1A and T.4 showing the units to which each aircraft was allotted and its fate and the other a breakdown of each unit's aircraft and the period of service with that unit.

Some queries arise from these. Firstly, what was No.52 Squadron doing with Shackletons at a time when No. 205 next door was flying them. Secondly what did CAPMF stand for. Several Shackletons were allotted to this batch of initials and it is thought to have been some maintenance flight at St. Eval which breathed upon Shackletons to some purpose. Suggestions welcome.

The "L" Serials

Many years ago, BMAN attempted to list the "K" serials, a batch which is probably the most interesting of all. Included therein were most of the aircraft used in 1930s prior to the flow of new types ordered in the rearmament schemes. If nothing else, this effort proved that a lot of us couldn't tell a Hart from a Demon or Audax. Fortunately, since then Bruce Robertson has come to the rescue with his indispensable book on RAF serials while much additional information has since come to light on individual aircraft.

Included in this issue are about 200 aircraft which followed on from the Ks. The 97 Spitfires listed carried on from the end of the K-serial batch and completed the first production batch. All known units have been show in chronological order with details of final disposal. Where a number alone has been shown, this relates to a squadron. Other units have been given abbreviations and a standard list of these has been compiled and will be issued later. Some examples appearing in this table are:

OTU: operational training unit; AGS: air gunners school; SF: station flight;
BGS: bombing & gunnery school; SAC: school of army co-operation;
AOS: air observers school; PAFU: (Pilots) Advanced Flying Unit;
FIU: Fighter Interception Unit; FLS: Fighter Leaders School;
AAS: Air Armament School; ATA: Air Transport Auxiliary; Cv.: converted;
AEAFCF: Allied Expeditionary Air Forces Communications Flight;
SOC: struck off charge.

One interesting fact that emerges from this batch of Spitfires is the effect repair units had on the published statistics of losses in the Battle of Britain. L1027 was shown by 602 Squadron as having been shot down by Bf 109s on 11 September 1940 but was repaired and redelivered to serve with No.53 OTU. L1082 was shot down by a Bf 109 near Ryde, Isle of Wight, but also survived as did L1083 which crashed at Orfordness on 29 July 1940. All three were counted as write-offs when calculating Battle of Britain losses. There were many other examples outside this small batch. One extreme case was K9975 whose pilot baled out near Deal, Kent, on 24 August 1940. This Spitfire nevertheless survived to be repaired and flew for another twenty months.

The Blenheims were not much further into the production line as only 150 had been built. There are gaps in the fates of some of these and further information would be welcome.

The School of Naval Co-operation

While many squadrons have been given the full treatment, numerous other units have received little attention. Many of them were much larger than squadrons and flew a great variety of types. Their contributions to their respective services were considerable and most, if not all, of those intrepid pilots and observers who were shot off the catapults of battleships and cruisers received their basic operational training at Lee-on-Solent. The station is still there and many traces remain of its past. The reference in Lee's records of radio control of a Fairey IIID is interesting and it does not seem to have been publicised. Does anyone know the extent of these experiments which culminated in the Fairey IIIF becoming the Fairey Queen and starting the "Queen" prefix for radio-controlled aircraft which developed into Queen Bees, Queen Wasps and Queen Martinets?

Biographical Notes

NBW's interest in World War One evoked these notes on Major R.S. Dallas whose score of enemy aircraft shot down appears to have been consistently underestimated in the published records of the subject.

Under this section we can also deal with logbook extracts which are valuable in tracing the careers of less-famous people and in filling gaps in our knowledge of aircraft allocations.

Grumman Checklist

How often have you ever wanted to remind yourself of what a particular type was, what its engine was, which variants existed or how many were built but could not find a ready reference? This is the purpose of checklists giving basic information on all the products of a manufacturer and for the first list Grumman has been selected.

One might have assumed that such a relatively late-formed and publicity-conscious organisation as Grumman would be fully documented but this is not the case. The list provided is culled from fairly-extensive files but still has many gaps which we would like to fill. It seems incredible that the Grumman type numbers of such well-known aircraft as the Avenger and Hellcat appear to have never been published in the numerous reference books which include these types.

As in the case with all manufacturers, numerous gaps appear in the type sequence which are accounted for by projects, some of which never got past the approximate three-view stage and these have been omitted. Only types which were built are listed.

Illustrations

The only illustrations in this issue are Cliff Minney's drawings of the Shackleton for which we are grateful. Photographs for another sheet hit snags and time prevented them being ironed out before this issue was due for printing.

Future issues may contain photographs but the cost of preparatory work means that we must have a substantial circulation before this becomes a viable proposition.

In the meantime, drawings can be produced at the same price as printed sheets and we will be using these to illustrate all issues.

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Issue 1/75

Since you are now looking at AM 1/75, it must be apparent that Issue 01 met with general approval and that sufficient support has been given to continue Aeromilitaria on a regular basis. The initial issue was, in fact, sold out completely. Our thanks to all those who commented on the subscription forms; these are being digested and we will try to cater for as many suggestions as possible. Unfortunately, space is limited by costs and, more vitally, by shortage of information on many subjects. Despite a touching faith in the editorial hotline to every defence ministry in the world which seems to be passed on from generation to generation of our younger members, the hard facts of life are that information has to be collated and sifted on every subject and few, if any, of our members have the spare time to cover everything in detail. This is where our specialists can help and where the Question Pages may allow additions from our readers.

Postage costs are due to go up considerably before this issue can be printed and will have the effect of reducing the total AM output by a couple of pages. The only way to offset this is to have an increasing number of subscribers so get to work on your friends. Since No.01 took a long time to reach some overseas members (the U.S.Post Office really ought to get the Pony Express some new animals), an alternative is being made available. For £2.50 per annum subscription, AM will be sent by air to destinations outside Europe.

Roundabout this Issue

Recording the service of the Hastings in the RAF would not fit into one issue without taking up most of the space, so this item has been restricted to units and allocations by serial. Unit service details will come later. Missing are the places where aircraft were written off and we would welcome details to complete the table. In preparation for unit allocations, details of codes carried would also be useful. Continuing the L-serials, more Blenheims are listed. L1201 has been repeated as further information on its fate has come to light. The lesser-known units continue with RAF war-time glider training schools.

The story of the presentation aircraft in World War One shows just how unreal the atmosphere in the higher echelons of Britain's war effort was. Fortunately, it had its equivalent on the other side. Details of actual aircraft presented will be completed later; how some managed to get airborne with all that extra paint is doubtful. Brevity was not, in many cases, a colonial attribute. The Handley Page list is open to comment and additions; one member has suggested that some constructors built civil aircraft so why should such a list appear in a military magazine. Looking at the Grumman list in No.01, only three types did not serve in some air force or other. Two were one-off prototypes and the third was the AgCat - so now someone will probably find an air force which used that!

Feedback

So much additional information has come in on the Shackleton that we will have to carry this over to another issue. Peter Howard has provided numerous amendments to the service use details; he did not, incidentally, compile the table which was done editorially from the official allocations which were not always the same as actual use by units. The Shackleton MR.3 will be next on our list.

The Mitchells have also benefitted from Jack Horsthuis' comments which appear herein and another stage in the voyage of the Sunderland at La Baule has been plotted. Some additional details of the fates of Spitfire in the L-batch have come to hand and have crowded out similar details for a number of Blenheims.

For the benefit of those who missed No.01, we can provide photostats of certain pages at 2p per page. These are: Shackleton 1 and 4 (8 pages); Grumman checklist (6 pages); School of Naval Co-operation (2 pages); Serials L1000 to L1200 (4 pages).

Costing for photographic page does not hold out much hope for including these at present. There have been numerous comments on the subscription forms to the effect that the space (and money) which might be devoted to photographs could be better used for text. Again it is a matter of how many readers we have as to whether illustrations become economically viable.

Tailpiece

Interest in the B-25 reminds us of the rather odd circumstances in which it got its name. While naming military aircraft after military heroes is not unusal, it is not often that they are honouring officers who were court-martialled.

Brigadier General William Mitchell emerged from World War One as the spokesman for air power in the ranks of the U.S. Army. Unlike the Royal Air Force, American air power, or lack of it, was a branch of the Army. To keep the air force in being required considerable publicity and during the campaign some of the arguments put forward in favour of air power were distinctly suspect.

Attack being the best form of defence, the U.S. Navy became the prime target. Aircraft, it was avowed, could replace the Navy in defence of the homeland - and were cheaper. At the end of World War One, air power was running a bad second to a ship's boiler in the field of sinking battleships - and if you don't believe that,check how the Austro-Hungarian battleship Wien ended up at the bottom of the harbour. To "prove" the air force's theories, a series of tests were arranged using ex-German warships surrendered to the Allies. The battleship Ostfriesland was allotted as a bombing target and after a number of heavy bombs had been dropped alongside from low altitude by Martin MB-2s and others, it thoughtfully agreed to sink. This only increased the quarrel since the Army bombers had failed to conform with the procedures laid down for the tests to enable damage assessment to be recorded. The newspapers joined in with their usual exaggeration and battleships were written off as obsolete several times a week. Eventually Mitchell was sacked for going beyond the bounds of military behaviour.

Twenty years later a Japanese naval force attacked Pearl Harbour and effectively put out of action the U.S. battlefleet in the Pacific. Billy Mitchell was declared a True Prophet, canonised and had a B-25 named after him.

Which leads to a few random thoughts. If air power was supposed to defend the U.S.A. in the twenties, how did a Japanese naval force cruise off American's main naval base untouched by all the Army aircraft based on Hawaii? Most of the damage had been done by naval torpedoes, and nobody argued about the menace of a torpedo from any source. The conventional bomb from a land-based aircraft was never as effective as a torpedo except when used by mass formations. How many battleships were sunk by conventional bombs at sea during World War Two?

The moral of this simplified story is that no one arm can replace another entirely. So it follows that a study of aviation history should be tempered by a look at naval and military history as well. Specialising in one aspect is fine - but don't treat it in isolation from the surrounding world. Having an air force which is 50% stronger and more efficient than the enemy does not help if there is a squadron of tanks parked along the perimeter of all your airfields - and they aren't on the same side.....

AM 1/75

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Issue 2/75

There are two major problems with information. The first is to acquire it, the second to recover it at a later date. The former is often easier than the latter which is why, all over the world, research is being done on subjects where the results are already known - somewhere else. There are economic reasons for this state of affairs. So much information has been published that it is often quicker to re-research than to spend time seeking out the published material.

In our own field of historical research there is much duplication of effort; multiplication of effort might be a more appropriate phrase as nobody can calculate how many of our readers chase the same set of facts over decades - and come up with different answers. This always poses a problem for any editor. An appeal for information on a particular subject may produce a vast amount of information from a member but nothing new. Thus much time has been wasted by the member copying out the information to no effective purpose. However, the next time this happens the information received could be full of new facts and fill a variety of gaps. The problem is how to get cooperation without wasting members' time which is usually restricted.

There is no easy answer but something could be done to channel future research so that two contributors do not do the same basic research. It might be appropriate to divide research into two types, basic and armchair. Basic research uses original material and can seldom be carried out at home. One must visit archives (during office hours) and extract the information required in the relatively short periods available. Armchair research can be done from published material and by relating basic research to existing published facts but there are limits in this field when dealing with military aviation. One has also to consider how many published facts are factual, but that is another subject.

Currently, AM is ploughing its way through the L serials and by 1986 we should have reached the end! This is not a phenomenal rate of progress so serial-addicts can take heart in the fact that this will not take quite as long as that if certain plans come to fruition. When we have recorded every aircraft in the RAF, Air-Britain will have achieved something special. We are not sure what and are unlikely to have survived long enough to find out.

Nevertheless, the absence of a complete British military register is something which we, as a society, can do something about. Although it will never be 100% complete, it is possible to get close to that figure given time. A major problem is that there is no single source which is comprehensive. Records exist of allocations from the mid-1930s to date which are available to a restricted extent but these do not, in a large number of cases, tell the whole story. Until about 1950, aircraft sent overseas were not further detailed in Air Ministry records and no centralised record of their service remains. Thus the thousands of aircraft sent to the Middle East, India and the Far East are not allotted to units. Many of these can be traced through the record books of overseas units filed at the Public Record Office in London and open to the public up to 1945.

What is required is a concerted search through these records and to this end, the editors would like to hear from anyone who has the time and interest to spend a few hours at intervals working on these records. As the record books are housed in Portugal Street, London WC.2 (not far from Kingsway) they are accessible mainly to those in the London area unless someone feels he has to use up his holidays somehow. To avoid several members doing the same piece of research, we would try and allot areas of research by advising members which parts of the records are already being done and keeping a record of members' special interests.A loose liaison of this nature could save us all a lot of duplicated effort. In fact, anyone with an interest in collating RAF serials in the style adopted by AM would be a welcome addition to the team. Log-book extracts are also very useful even if not published especially where overseas service was involved or J and early K serials are recorded. The dates on which individual aircraft were with overseas units is especially important so that the units can be arranged in chronological order. This raises the query as to why we do not quote dates of service in the L serials for each unit. Apart from the problem with overseas service, this would increase the amount of space taken up and we would fail to com plete the L serials this century. Such dates, however, have a place in individual type histories as we have done for the Shackletons.

Readership Notes

Subscriptions continue to trickle in but to keep abreast with the ever-increasing costs of paper and printing and the threatened further increase in postage charges we do require more readers. The alternative is to shrink. We can backdate new subscriptions to AM 1/75.

Norman Wiltshire is demigrating to Australia in the near future so all general correspondence should be sent to 5 Walnut Tree Road, Shepperton, Middlesex unless you are being rude about JJH.

We would like to thank the numerous readers who commented on the Shackleton MR.1 and T.4 article, especially those who have not had an individual reply yet due to the usual pressure on spare time. To save expense, the typing is being done editorially on the master sheets which are the basis for the printing plates but this does take up a lot of time. It also explains the change of type faces. There have been some comments about "printing" AM instead of user a cheaper method. We accept this as a compliment to our typists since AM is typed and duplicated as cheaply as we can make it.

Roundabout this Issue

Peter Howard has compiled this issue's section on the Shackleton MR.3 for which we are very grateful. His amendments and additions to the MR.1 and T.4 appear in the feed-back section.

Anti-Aircraft Cooperation Units are not the most-publicised units of any air force and from the notes on No.1 AACU it is apparent that they are not over-documented either. Additions will, as always, be gratefully received.

The L serials complete the Blenheim batch and start on the first Hurricane batch. NBW has compiled a Boulton Paul list to which additions are invited.

For those interested in colour slides, the following are available from the Colour Slide Library at 6p each (unmounted and plus VAT in UK) illustrating last issue's Hastings feature. TG503 T.5 BCBS Neg No.4937; TG503 T.5 SCBS (Dayglo) Neg No.10204; TG517 T.5 BCBS Neg.No.9929; TG518 T.5 BCBS Neg.No.4936; TG536 C.1A SCBS Neg.No.10206; TG576 C.1A 70 Sqn Neg.No.11703; TG568 C.1A SCBS Neg.No.10205; TG604 C.1 242 OCU Neg.No.11701; WD485 C.2 36 Sqn Neg.No.11702; WD487 C.2 1312 Flight Neg.No.11704.

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Issue 3/75

With the rapid approach of the end of the year, this seems to be a good time to review progress. The next issue in December is always liable to overflow into 1976 as the printers become involved in the Christmas rush.

Unintentionally, Aeromilitaria has become predominantly British military aviation. This was not by design but came about through the availability of information. Very little has come in from readers on any other subject. The answers to the questionnaire sent out with Issue 01 confirm this fact.

Comments contained in readers' forms and letters seem to favour the present format; alternatively, the majority would like something different and keep quiet about it until they disappear without trace when renewal time comes up.

Since AM began, costs have risen to the same extent as in any other field of publishing, large and small. In some degree, we can keep within our budget by varying the number of pages to cope with additional postage charges and printing increases. However, to keep up the current amount of information we would not like to fall below an average of 24 pages in each issue. To ensure this, we are asking for a subscription of £2.00 to cover 1976 (£3.00 outside Europe if air mail delivery required). In return, we repeat the undertaking to provide as many pages per annum as can be obtained for the money available. Please try to let us have your subscription for 1976 as soon as possible and at the latest by Christmas so that we can budget for the numbers of copies required. New readers will be very welcome as each one lowers the unit cost and we can provide all 1975 issues to anyone who wants them.

Military Monographs

The Council of Air-Britain has approved in principle the production of military monographs in the same format as Aeromilitaria and we will be giving details later. As one of the problems with small-run publications is the cost of setting-up the material, the military mini-monographs will be basic documents providing coverage of types and subjects which are too large to be contained in an issue of AM. We hope this will provide more opportunities for members to research and publish their findings on their favourite subjects and to provide the background information which members require for their records.

In this field, we would like to hear from any reader who has an electric typewriter available who would be willing to do some typing and relieve the strain on the editorial machine.

Roundabout this Issue

The Henleys have always fascinated those interested in RAF history. How an apparently efficient light bomber could have been wasted in the role of a target-tug at a time when the RAF was straining to get every combat aircraft it could into service has always been the subject of speculation.

The usual reason put forward was bureaucratic muddling, a favourite one of journalists in every field. Anyone reading the contemporary journals would, however, now write off their appreciation of the practicalities of military aviation as superficial. None appear to have any idea of the wastage involved in training and operating an air force in wartime and one now reads of their strange notions with a feeling of relief that nobody involved in planning the RAF took them seriously.

A force of 500 Henleys in France in May 1940 might have caused more damage than the unfortunate Battles. Providing them at the cost of 500 Hurricanes built on the same production line would certainly have proved fatal three months later. Perhaps the Air Ministry planners had a much better idea of what would befall such aircraft as the Battle and Ju 87 when faced by a determined fighter defence than the theorists.

Having once got the Henley into service, No.1 AACU found itself with a miniature air force of its own. Details of this far-flung unit were given in AM 2/75 with additions in this issue's Feedback page. Cliff Minney has once more provided drawings of the Henley and has broken new ground with that war-winning weapon, the TT winch. Perhaps this is the beginning of a 1,000 page work entitled "Famous Target-Towing Winches of World War Two". We have to run out of subjects some time.

Duxford is a change from the normal type of RAF unit which we have covered in the past. If readers like it, we will try some more. The drawings by Keith Woodcock illustrate the changes that take place during the life of an RAF station and also the way some features remain. It is appropriate that Duxford should today house a collection of historic aircraft as many of its buildings are just as interesting as the contents. When one considers the dedication and industry required to preserve an historic aircraft, the mind reels at preserving an entire fighter station!

Further additions are provided to the L-serials and the table of presentation aircraft on World War One. The additions are shown in Feedback and we thank those readers who have contributed.

While dealing with Duxford, it seemed a good time to produce a short note on the development of airfields in general. This is a subject which has seldom been covered yet the design and development of airfields has played as great a part in aviation history as the aircraft which depended on them. Hangars form a subject of their own which we may cover some day. The subsiduary buildings were often standardised and especially in the late Thirties it seemed to be practice to issue standard packs of plans for new stations as can be seen to this day in stations built or reconstructed during the Expansion Scheme. The 1918 wooden hangar roof is a work of art. Contemplate Duxford's roofs; these escaped the Luftwaffe in 1940 but fell victim to Harry Salzman's blitz during the making of the Battle of Britain film when a little too much high explosive got into the act.

Geography also played a major part in the development of air power. Siting of airfields was important and the campaign in Norway in April 1940 rested on the occupation of the few good airfields. Lack of them resulted in Gladiators flying off a frozen lake so it can be said that the RAF Museum has an exhibit showing the effect of having no airfields in the shape of a twisted Gladiator airframe!

aeromilitaria

The AIR-BRITAIN Military Aviation Publication

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Issue 4/75

How many times have we all heard the statement "I'm only interested in ....." (fill in your own peculiar subject)? A quick look through any Air-Britain questionnaire brings to light members dedicated to a wide variety of highly-specialised subjects. Some even apologise for not having a highly-specialised interest!

In the field of aviation history, one salient fact emerges. As time goes by, few people keep to their original narrow subject to the exclusion of everything else. Someone with no interest in World War One aviation can become intrigued by the background to those far-off days. Usually such lack of interest is due to the general feeling that the Royal Flying Corps and its contemporaries were amateurish organisations flying whatever aircraft they could lay hands on, as and when they could get into the air - a sort of "limp-handkerchief" technology (if it moves it's too windy to fly).

When one looks closer at the RFC (and later the RAF) in World War One, the organisation required to maintain a very large air force in action is strikingly similar to that set up in World War Two. There were operational training units, flying training schools, specialised maritime, fighter and bomber schools and flying instructors schools. In the UK, there were coastal reconnaissance and defensive fighter squadrons as in World War Two and by the Armistice there was a sizeable equivalent of Bomber Command being organised at British bases. All these required a large number of aircraft and airfields and a major organisation in the shape of factories, acceptance and repair units and construction teams. Although airfield construction was not as elaborate as in World War Two, due to the lack of concrete runways and dispersals, many stations were of permanent character and a fair number of buildings of that era still exist to this day.

Once one has accepted that the current organisation of an air force goes back sixty years, then one's interest tends to become retrospective. The theory has been put forward that such interest in the past is a result of nostalgia for remembrances of one's youth - which makes your editors very youthful-looking 80-year-olds.

It is this potential change in interests which governs publications like AM. One does not throw away the parts which are not of immediate interest. One files them and in ten years time perhaps they become the basis for a new interest. We would like to think that some of the odder items may have started a few members off into pastures new. One of the fascinations of aviation history is that there are so many facets to a single subject which have all been concentrated into one lifetime.

As aviation does not operate in a historical (or geographical) vacuum, interest can stray to other fields - military and naval history, for example. Unfortunately, we tend to lose people that way. Nevertheless, the diversions can add immeasurably not only to one's hobby but to the understanding of the background to recent history.

So the moral is - keep your paperwork filed away, you never know when you may want it. And to those who want to know how one keeps track of it all for thirty years, please don't write to us as we have never found out. However, why should we always have to file paper? The next twenty years might see a revolution in information storage and distribution. After all, the Egyptians were using paper three thousand years ago so it is time someone thought of something different.

They have. It's called microfilm.

Roundabout this Issue

Apart from the usual additions to the L-serials and the list of World War One presentation aircraft, most of this issue is taken up with a review of the Blackburn Botha. When this was prepared, it was considered to be too long for one issue of AM but since doing our sums to find out how many pages were left in the kitty at the end of the year it has been found possible to include it instead of producing it as a separate item. The drawings are once again the work of Cliff Minney.

Also included is a sheet of abbreviations used in connection with the Royal Air Force. This is a selection of the most likely to be found in AM but there are many others which could be added to obtain a more comprehensive listing. Contributions are invited.

Abbreviations are often a source of confusion and unfortunately in many publications there are misunderstandings and guesses as to their exact meanings. For example, the Air Armament Schools (AAS) are often declared to be Anti-Aircraft Schools and the Torpedo Training Units (TTUs) have frequently been down-graded to Target-Towing Units. The latter is understandable since target-towing flights used the designation TT in their role description.

US Army, Navy, Air Force and Marine Corps abbreviations would fill a book and some are sheer works of art. Perhaps someone would like to volunteer to compile a list of US aviation abbreviations. Offers will be dealt with in strict order of application!

The reduced size of type used on the abbreviations sheet lends itself to serial lists where ease of reading is not too important so long as the letters are legible. We are looking into using this format for future additions to the L-serials as it accepts 30% more information in the same area and postage weight.

And So We Say Farewell....

.....to all those who have not renewed their subscription by the time AM.1/76 is ready for printing at the end of January. Seriously, however, we must have renewals at £2.00 per annum by January if we are to know how many copies to print. We cannot afford to overestimate the number required since we work strictly on delivering the maximum number of pages available for the cash subscribed. We cannot always guarantee to have back numbers available should you subscribe later in the year.

Being suckers for punishment, we would also like to hear from those readers who are not re-subscribing giving their reasons. We have tried to base AM on the subscription questionnaires sent out with issue 01 and it would help us greatly to know why we have lost readers, if in fact we have lost any by the time all the renewals are in.

This is also a good time to try and recruit new readers. Every new subscription lowers the unit cost and makes more space available. We can provide a limited number of all issues for 1975 at £1.50. Cheques, postal orders and International Money Orders should be made payable to Air-Britain.

Finally....

may we wish all our readers a Merry Christmas and a Happy New Year or, if you get AM by sea mail, a Happy Labor Day/Anzac Day/Ramadan, etc.

TABLE OF ABBREVIATIONS

AA	Air attache
AAC	Army Air Corps
AACC	Army Air Corps Centre
AACU	Anti-Aircraft Cooperation Unit
AAEE	Aeroplane and Armament Experimental Estab.
AAP	Aircraft Acceptance Park (in WW.1)
AAPC	Anti-Aircraft Practice Camp
AAS	Air Armament School
AASF	Advanced Air Striking Force (1939/40)
AAU	Air Ambulance Unit
ACC	Army Cooperation Command
ACDU	Army Cooperation Development Unit
AD	Aircraft Depot
AD	Air Defence
ADF(U)	Air Defence Flight (Unit)
ADGB	Air Defence of Great Britain
AEAES	Air Electronics and Air Engineers School
AEAF	Allied Expeditionery Air Force
AEF	Air Experience Flight
AES	Air Electronics School
AFDU(S)	Air Fighting Development Unit (Squadron)
AFEE	Airborne Forces Experimental Establishment
AFS	Advanced Flying School
AFTS	Advanced Flying Training School
AGME	Aircraft Gun Mounting Establishment
A&GS	Armament & Gunnery School
AGS	Air Gunners School
AGS	Aircrew Grading School (post-WW.2)
AHQ	Air Headquarters
AI	Air Interception
AIEU	Armament & Instrument Experimental Unit
ALS	Air Landing School (in India)
AM	Air Ministry
AMDP	Air Member for Development & Production
ANS	Air Navigation School
AOC	Air Officer Commanding
AOCU	Andover Operational Conversion Unit
AOP	Air Observation Post
AOS	Air Observers School
AP	Aircraft Park (WW.1)
APC(S)	Armament Practice Camp (Station)
APC&SS	Aden Protectorate Control & Support Sqn.
ASP	Air Stores Park
ASR	Air-Sea Rescue
ASRTU	Air-Sea Rescue Training Unit
ASS	Air Signals School
AST	Air Service Training
ASU	Aircraft Storage Unit
ASWDU	Air-Sea Warfare Development Unit
ATA	Air Transport Auxiliary
ATC	Armament Training Camp
ATDU	Air Torpedo Development Unit
ATDU	Air Transport Development Unit
ATF	Autogiro Training Flight
ATS	Armament Training Station
ATU	Armament Training Unit (in India)
AW	Armstrong Whitworth
AWDS	All-Weather Development Squadron
AWOCU	All-Weather Operational Conversion Unit
BAFF	British Air Forces in France (1939/40)
BAFO	British Air Forces of Occupation (post-WW.2)
BANS	Basic Air Navigation School
BARU	British Airways Repair Unit (in M.East)
BAS	Beam Approach School
BATF	Beam Approach Training Flight
BBBLEE	Bomb Ballistics and Blind Landing Experimental Establishment
BCAHU	Bomber Command Aircraft Holding Unit
BCBS	Bomber Command Bombing School
BCCF	Bomber Command Communications Flight
BCDU	Bomber Command Development Unit
BCSMS	Bomber Command Strategic Missile School
BDE	Balloon Development Establishment
BDU	Bombing Development Unit
BEF	British Expeditionery Force
BFTS	British Flying Training School (in USA)
BGS	Bombing & Gunnery School
BLEU	Blind Landing Experimental Unit
BP	Boulton-Paul
BSE	Bristol-Siddeley Engines
BT	Bomber-Transport
BTU	Belvedere Trials Unit
CA	Coastal Area (pre-1936)
CAACU	Civil Anti-Aircraft Cooperation Unit
CACF	Coastal Artillery Cooperation Flight
CAEU	Casualty Air Evacuation Unit
Cal	Calibration
Cam Flt	Camouflage Flight (later Unit)
CANS	Civil Air Navigation School
CATCS	Central Air Traffic Control School
CAW	College of Air Warfare
CBE	Central Bomber Establishment
CC	Coastal Command
CCCF	Coastal Command Communications Flight
CCDU	Coastal Command Development Unit
CCGS	Coastal Command Gunnery School
CCP	Coastal Command Pool
CCU	Check & Conversion Unit (in M.East)
CD	Coast Defence
CDCF	Coast Defence Cooperation Flight
CDDF(U)	Coast Defence Development Flight (Unit)
CF	Conversion Flight (after sqn number)
CF	Communications Flight
CFCS	Central Fighter Control School
CFE	Central Fighter Establishment
CFS	Central Flying School
CGS	Central Gunnery School
CLE	Central Landing Establishment
CLS	Central Landing School
CNCS	Central Navigation & Control School
CNS	Central Navigation School
CRD	Controller of Research & Development(AM)
CRE	Central Reconnaissance Establishment
CRO	Civilian Repair Organisation
CS	Communications Squadron
CSDE	Central Servicing Development Establishment
CSE	Central Signals Establishment
CTTS	Communications & Target Towing Squadron
CU	Conversion Unit
CUAS	Cambridge University Air Squadron
DFLS	Day Fighter Leaders School
DTD	Director of Technical Development (AM)
DWI	Directional Wireless Installation
EAAS	Empire Air Armament School
EACF	East Africa Communications Flight
EANS	Empire Air Navigation School
ECFS	Empire Central Flying School
ECU	Experimental Cooperation Unit
EEC	English Electric Co
EFS	Empire Flying School
EFTS	Elementary Flying Training School
ERFTS	Elementary & Reserve Flying Training School
ERS	Empire Radio School
ETPS	Empire Test Pilots School
EWETU	Electronic Warfare Experimental & Training Unit
EWS	Electrical & Wireless School
FA	Fighting Area (pre-1936)
FAA	Fleet Air Arm
FBFTS	Franco-Belgian Flying Training School
FBTS	Flying Boat Training Squadron
FCCS	Fighter Command Communications Squadron
FCIRF	Fighter Command Instrument Rating Flight
FCPU	Ferry Command Preparation Unit
FEAF	Far East Air Force
FECS	Far East Communications Squadron
FETS	Far East Training Squadron
FFAF	Free French Air Force
FIS	Flying Instructors School
FIU	Fighter Interception Unit
FLS	Fighter Leaders School
Flt	Flight
FP	Ferry Pool
FPP	Ferry Pilots Pool
FRL	Flight Refuelling Ltd
FRS	Flying Refresher School
FRU	Fleet Requirements Unit
FSS	Ferry Support Squadron
FTC	Flying Training Command
FTS	Flying Training School
FTU	Ferry Training Unit
FTU	Floatplane Training Unit
FWS	Fighter Weapons School
GCA	Ground Controlled Approach
GCF	Gunnery Cooperation Flight
GCF	Group Communications Flight
GDGS	Ground Defence Gunners School
GGS	Ground Gunners School
GIS	Glider Instructors School
GOTU	Glider Operational Training Unit
Gp	Group
GP	General Purpose
GPEU	Glider Pilots Exercise Unit
GRU	General Reconnaissance Unit

GRU Gunnery Research Unit
GTF Gunnery Training Flight
GTS Glider Training Squadron (no number)
GTS Glider Training School (numbered)
GU Grading Unit
GWDS Guided Weapons Development Squadron
GWTS Guided Weapons Training Squadron

HAD Home Aircraft Depot
HC Home Command
HCCS Home Command Communications Squadron
HCGC Home Command Gliding Centre
HCU Heavy Conversion Unit
HD Home Defence (WW.1)
HDU Helicopter Development Unit
HFU Home Ferry Unit
HGCU Heavy Glider Conversion Unit
HOCF Helicopter Operational Conversion Flt
HxCF Halifax Conversion Flight

IA Inland Area (pre-1936)
IAF Indian Air Force
IAv Med Institute of Aviation Medicine
IF Independent Force (WW.1)
ISF Internal Security Flight
ITF Instrument Training Flight
ITS Initial Training School

JASS Joint Anti-submarine School
JCU Javelin Conversion Unit
JEHU Joint Experimental Helicopter Unit
JIRF Javelin Instrument Rating Flight
JOCU Jaguar Operational Conversion Unit
JWE Joint Warfare Establishment

LAS Light Aircraft School
LCF Lincoln Conversion Flight
LCS Lightning Conversion Squadron
LFS Lancaster Finishing School
LRDU Long Range Development Unit

MAEE Marine Aircraft Experimental Estab.
MAP Ministry of Aircraft Production
MCA Ministry of Civil Aviation
MCS Metropolitan Communications Sqn
MCU Mosquito Conversion Unit
MECCS Middle East Check & Conversion Sqn
MECF(S) Middle East Communications Flight (Sqn)
MEFC Middle East Ferry Control
METS Middle East Training School
Mkrs Makers(includes engine mkrs)
MoA Ministry of Aviation
MoS Ministry of Supply
MOTU Maritime Operational Training Unit
MSFU Merchant Ship Fighter Unit
MU Maintenance Unit

NAAF Northwest African Air Forces
NACAF Northwest African Coastal Air Forces
NASAF Northwest African Strategic Air Forces
NATAF Northwest African Tactical Air Forces
NCS Northern Communications Squadron
NFLS Night Fighter Leaders School
NTU Navigation Training Unit

OADU Overseas Aircraft Delivery Unit
OAFU (Observers) Advanced Flying Unit
OAFU Overseas Aircraft Ferry Unit (post WW?)
OAPU Overseas Aircraft Preparation Unit
OCU Operational Conversion Unit
OFU Overseas Ferry Unit
ORTU Operational & Refresher Training Unit
OTU Operational Training Unit
OUAS Oxford University Air Squadron

PAFU (Pilots) Advanced Flying Unit
PAS Pilotless Aircraft Section
PAU Pilotless Aircraft Unit
PDU Photographic Development Unit
PFF Pathfinder Force
(P)FTS (Polish) Flying Training School
PFU Parachute Flying Unit
(P)OTU (Polish) Operational Training Unit
PRRP Pilots Reserve & Reinforcement Pool
PRU Photographic Reconnaissance Unit
PTS Parachute Training School
PTU Parachute Test Unit (post WW.2)

QB Queen Bee
QF Queen's Flight

RAAF Royal Australian Air Force
RAE Royal Aircraft Establishment
RAF Royal Aircraft Factory (pre-1918)
RAFC Royal Air Force College
RAFFC Royal Air Force Flying College
RAFG Royal Air Force Germany
RAFRS Royal Air Force Regiment School
RCAF Royal Canadian Air Force
RDFS Radio Direction Finding School
RFS Reserve Flying School
RFTS Refresher Flying Training School
RHAF Royal Hellenic Air Force
RIAF Royal Indian Air Force
RNAS Royal Naval Air Station
RNFS Royal Navy Fighter Squadron (in M.East)
RNZAF Royal New Zealand Air Force
RR Rolls-Royce
RRE Royal Radar Establishment
RRFU Radar Research Flying Unit
RRU Radar Reconnaissance Unit
RS Radio School
RSU Repair and Servicing Unit

SAAF South African Air Force
SAC School of Army Cooperation
SAN School of Air Navigation
SAP School of Air Pilotage
SAR Search and Rescue
SC Strike Command
SCBS Strike Command Bombing School
SCF Sabre Conversion Flight
SCS Southern Communications Squadron
SCS Special Communications Squadron (in Middle East)
SD Special Duties
SF Station Flight
SFC School of Flying Control
SFPP Service Ferry Pilots Pool
SFTS Service Flying Training School
SFTS(I) Service Flying Training School (India)
SGR School of General Reconnaissance
SMR School of Maritime Reconnaissance
SNC School of Naval Cooperation
SOE Special Operations Executive
SP Staging Post
S of P School of Photography
SPTU Staff Pilots Training Unit
SRAF Southern Rhodesian Air Force
SRCU Short Range Conversion Unit
SRF School of Refresher Flying
SS Signals School
SSVAF Straits Settlements Volunteer Air Force
STS Seaplane Training Squadron
STT School of Technical Training

TAF Tactical Air Force
TC Training Command (later Transport Command)
TCASF Transport Command Air Support Flight
TCDU(F) Transport Command Development Unit (Flight)
TCEU Transport Command Examining Unit
TCU Transport Conversion Unit
TDS Training Depot Station (in WW.1)
TDU Torpedo Development Unit
TF Training Flight
TFF (S) Target Facilities Flight (Squadron)
TFU Telecommunications Flying Unit
TOS Target Operating Squadron
TRE Telecommunications Research Establishment
TS Training Squadron (WW.1)
TSF Transport Support Flight
TT Target Towing
TTCCF Technical Training Command Communications Flight
TTF Tanker Training Flight
TTU Torpedo Training Unit

UAS University Air Squadron
ULAS University of London Air Squadron

VA Vickers-Armstrongs

WA Western (Bombing) Area (pre-1936)
WCS Western Communications Squadron
WCU Washington Conversion Unit
WDCF Western Desert Communications Flight
WDU Wireless Development Unit
WEE Winterisation Experimental Establishment (in Canada)

HANDLEY PAGE HASTINGS IN ROYAL AIR FORCE SERVICE

The Hastings was designed to Specification C.3/44 as a successor to the modified bombers and Lend-Lease transports which made up the bulk of the Royal Air Force Transport Command at the end of World War Two. Shortage of dollars made it impossible to retain any of the transports supplied by the USA other than a force of Dakotas for which no substitute was available. The Liberators and Skymasters could be replaced by Yorks, a small number of which had been built by the end of the war but these interim transports were unsuitable for tactical use and suffered from all the shortcomings of their bomber-based design.

As a four-engined airliner design designated "Hermes" was already on the drawing boards at Handley Page, a freighter version could be adapted to meet Air Ministry requirements and was named "Hastings". The first Hermes crashed a few minutes after its first take-off on 3 December 1945 but the prototype Hastings (TE580) took to the air on 7 May 1946 successfully. A second prototype (TE583) first flew on 30 December 1946 and later was used as a test-bed for Sapphire gas turbines.

The first production Hastings flew on 25 April 1947 and after a delay due to control difficulties the first service aircraft were delivered to No.47 Squadron from 14 September 1948.

Five versions of the Hastings were flown by the Royal Air Force. The basic transport marks C.1 and C.2 differed mainly by the latter having a lowered tailplane of larger area and a later mark of Hercules engine. Coastal Command's Met.1 version was a C.1 fitted with equipment to carry out long-range meteorological flights while the four C(VIP).4s were sound-proofed and furnished to airline standards, the main external difference being their airstairs. Finally, the T.5s were modified from C.1s and Met.1s as radar trainers with the Bomber Command Bombing School (later Strike Command Bombing School).

Units equipped with Hastings were:

No.24 Squadron re-equipped at Lyneham in December 1950 and was based later at Topcliffe, Abingdon and Colerne. Last Hastings disposed of in February 1968.

No.36 Squadron flew Hastings at Colerne from September 1958 to July 1967.

No.47 Squadron re-equipped from Halifaxes in September 1948 at Dishforth and was later based at Schleswigland, Topcliffe and Abingdon. Converted to Beverleys in March 1956.

No.48 Squadron was equipped with Hastings from August 1957 to March 1967 at Changi, Singapore.

No.51 Squadron used one Hastings between February 1963 and March 1967 at Wyton.

No.53 Squadron flew Hastings from August 1949 at Topcliffe, Schleswigland, Wunstorf, Topcliffe (again), Lyneham and Abingdon then converted to Beverleys in February 1957.

No.70 Squadron in Cyprus re-equipped with Hastings in January 1956 and flew them from Akrotiri and Nicosia until July 1968.

No.97 Squadron used one Hastings at Watton between May 1963 and January 1967.

No.99 Squadron equipped with Hastings at Lyneham in August 1949 and converted to Britannias in January 1959.

No.114 Squadron flew Hastings between May 1959 and September 1961 at Colerne.

No.115 Squadron used one Hastings at Watton between January 1967 and January 1969.

No.116 Squadron used one Hastings between August 1952 and April 1956 at Watton.

No.151 Squadron used two Hastings at Watton between January 1962 and May 1963.

No.202 Squadron flew Hastings on meteorological duties from Aldergrove between October 1950 and July 1964.

No.297 Squadron re-equipped with Hastings in November 1948 at Dishforth and later at Schleswigland, Wunstorf and Topcliffe until November 1950.

No.511 Squadron equipped with Hastings between September 1949 and September 1958 and was based at Lyneham and Colerne.

Other units using Hastings at various times were:

Bomber Command Bombing School (later Strike Command Bombing School) at Lindholme (aircraft later based at Scampton).

Central Signals Establishment at Cottesmore.

Empire Flying School at Hullavington

Far East Communications Squadron at Changi, Singapore.

Meteorological Research Flight at Farnborough.

Royal Air Force Flying College at Manby.

No.1 Parachute Training School at Abingdon.

Middle East Communications Squadron at Fayid and Nicosia.

Telecommunications Research Establishment (later Royal Radar Establishment) at Defford and Pershore.

Transport Command Air Support Flight (became No.1312 Flight on 14 September 1954) at Abingdon.

Transport Command Development Unit (later Flight), Brize Norton and Abingdon.

No.241 Operational Conversion Unit at Dishforth.

No.242 Operational Conversion Unit at Dishforth and Thorney Island.

The Aeroplane and Armament Experimental Establishment, Boscombe Down.

The Royal Aircraft Establishment at Farnborough.

Station Flight, Khormaksar in Aden.

Radar Reconnaissance Flight at Wyton.

Stations and Central Pools

During and after the Berlin Airlift in 1948-49, aircraft employed on the operation were allotted to the stations supporting the Airlift. Serviceable aircraft were sent to German bases and flown by any squadron crew available so that no squadron had any particular aircraft allotted to it. This practice applied also to Yorks and Dakotas at this time. Thus No.297 Squadron will be seen from the table to have had no aircraft allocated to it during its Hastings period.

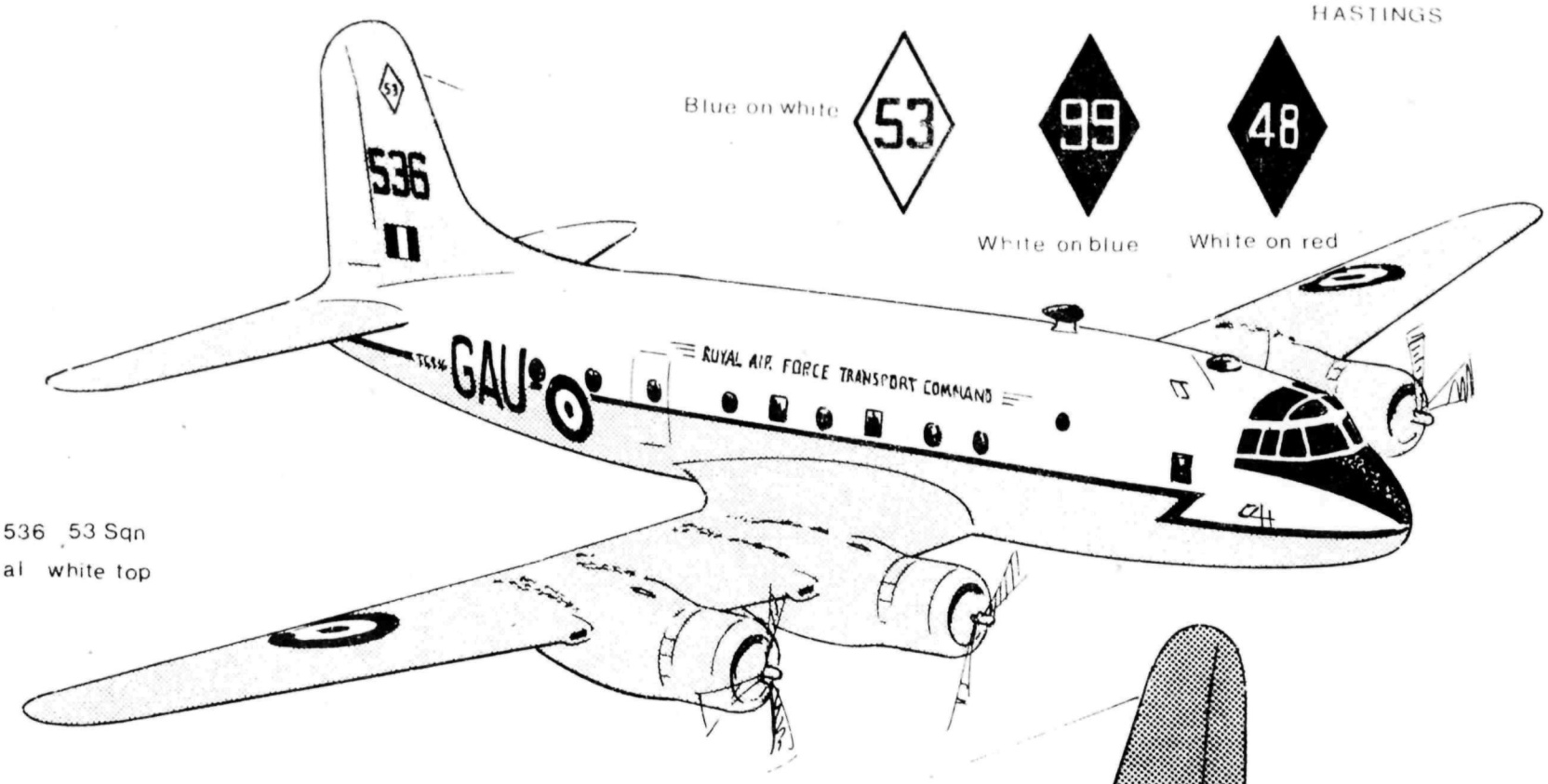
Similarly aircraft were later pooled between squadrons based at the same station and are shown thus "24-36-114" in the tables.

HASTINGS

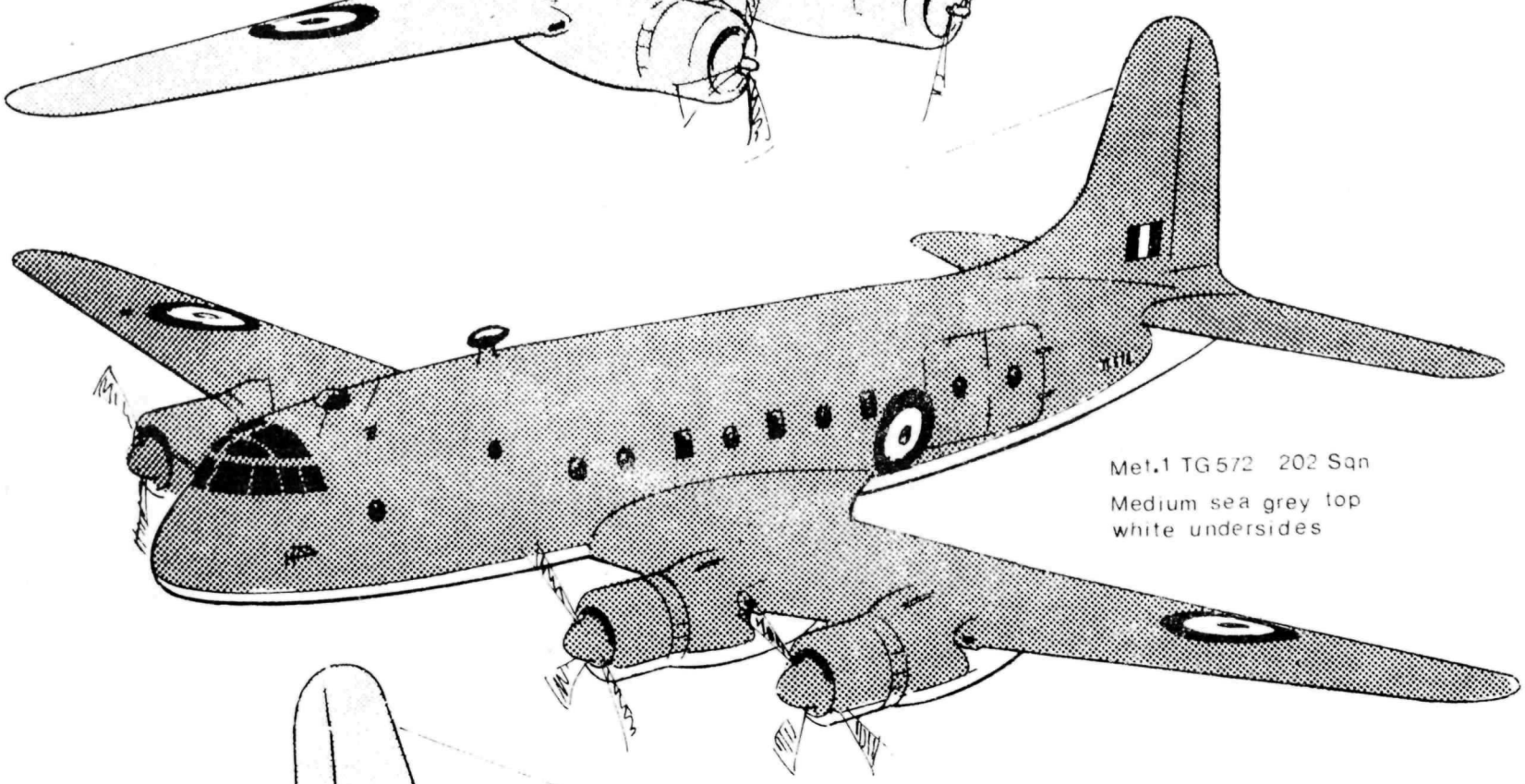
Blue on white

White on blue

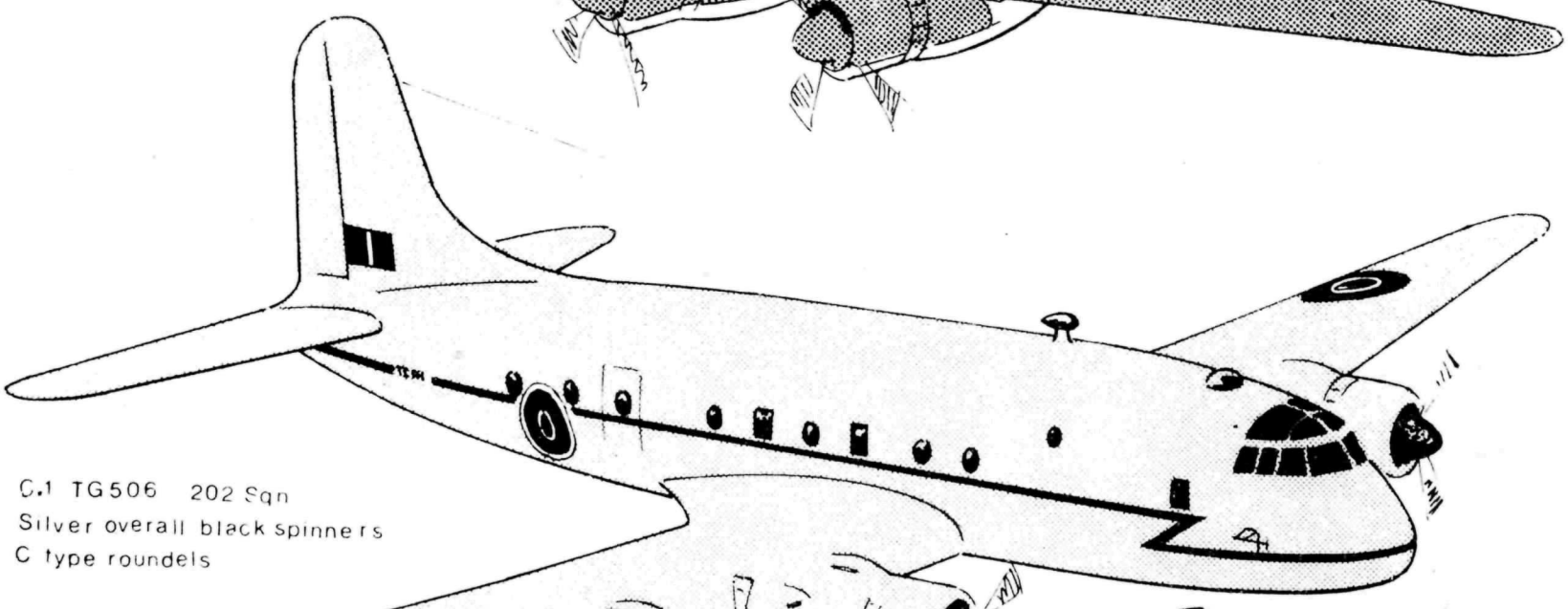
White on red



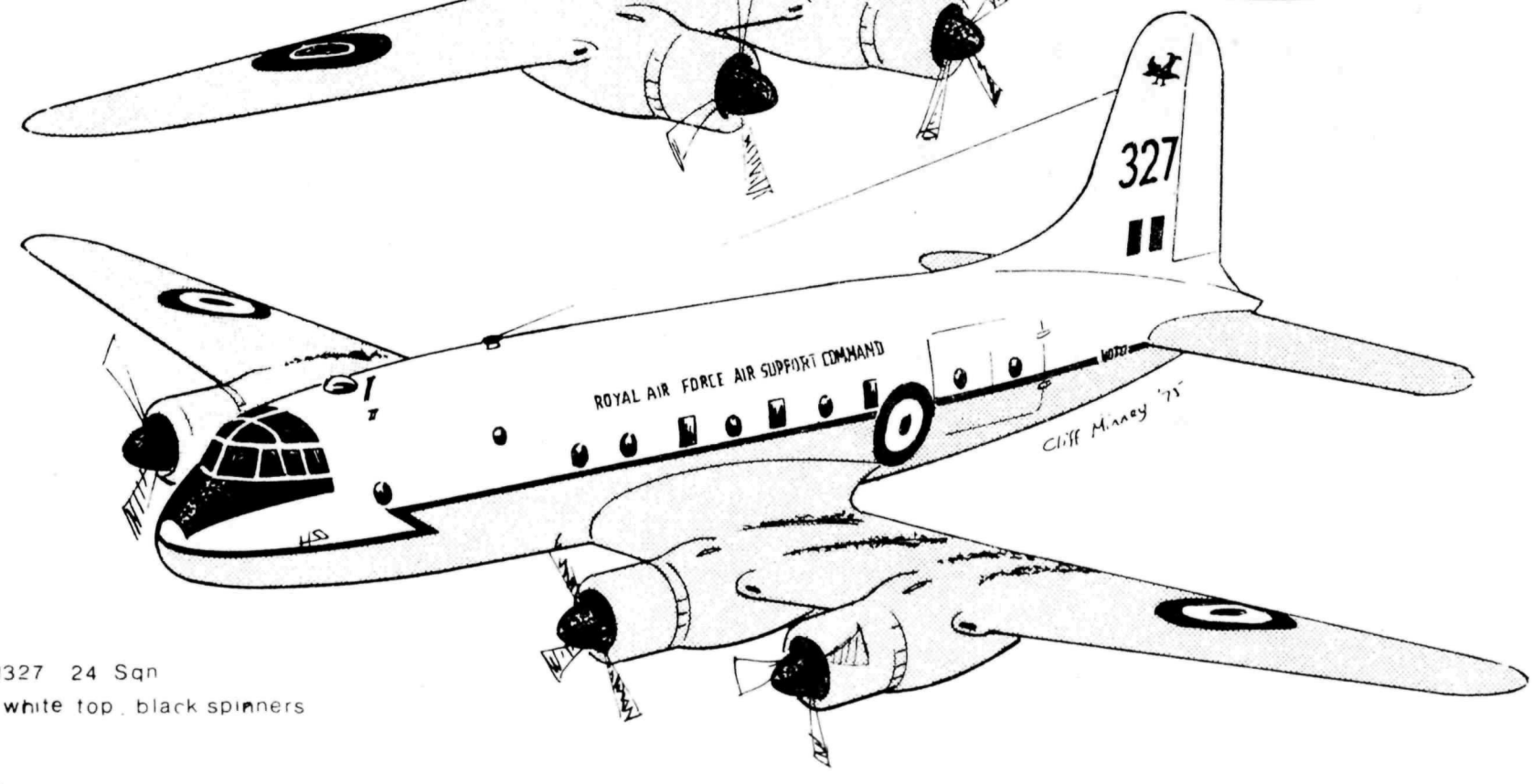
C.1 TG536 53 Sqn
Bare metal white top



Met.1 TG572 202 Sqn
Medium sea grey top
white undersides



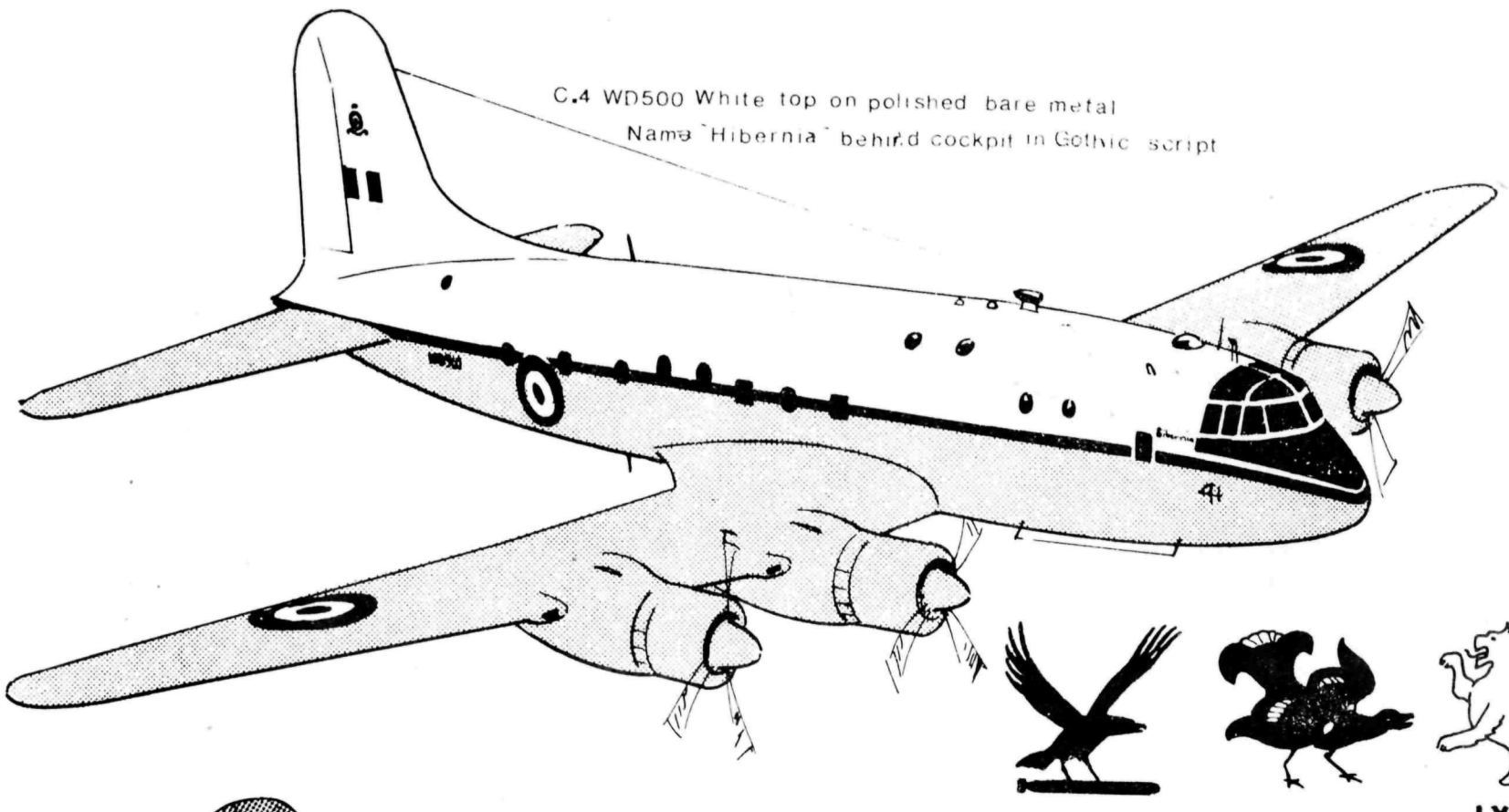
C.1 TG506 202 Sqn
Silver overall black spinners
C type roundels



C.2 WJ327 24 Sqn
Silver, white top, black spinners

AM 1.75

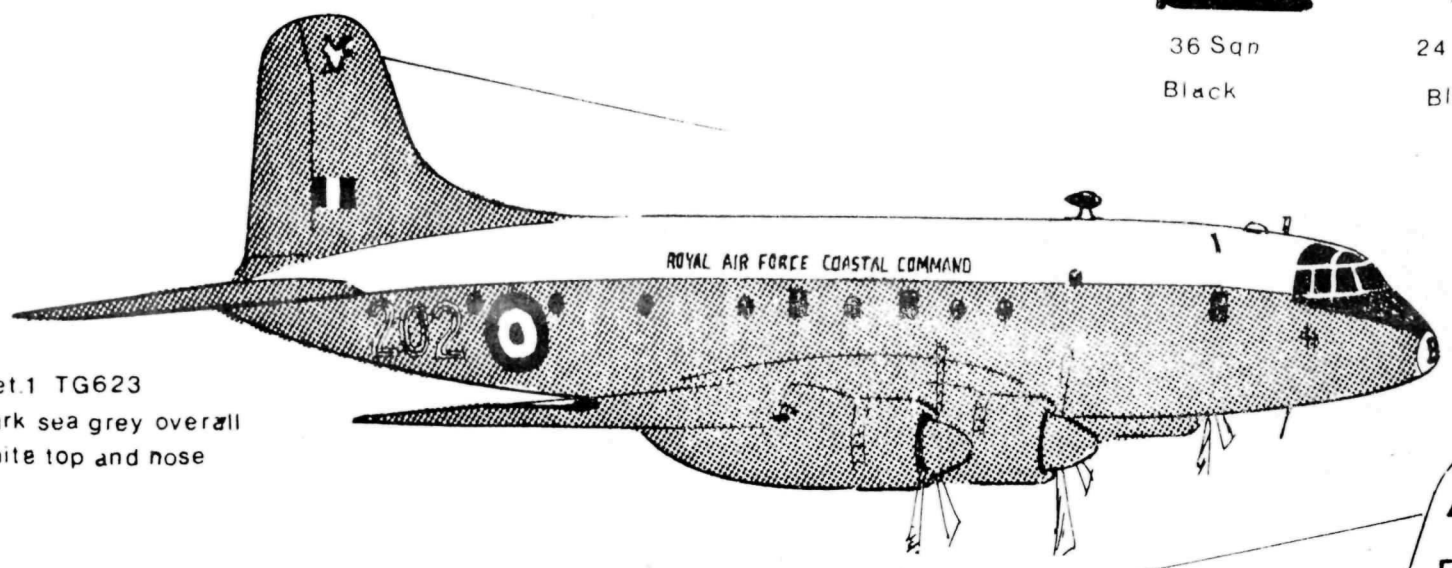
C.4 WD500 White top on polished bare metal
Name "Hibernia" behind cockpit in Gothic script



36 Sqn
Black

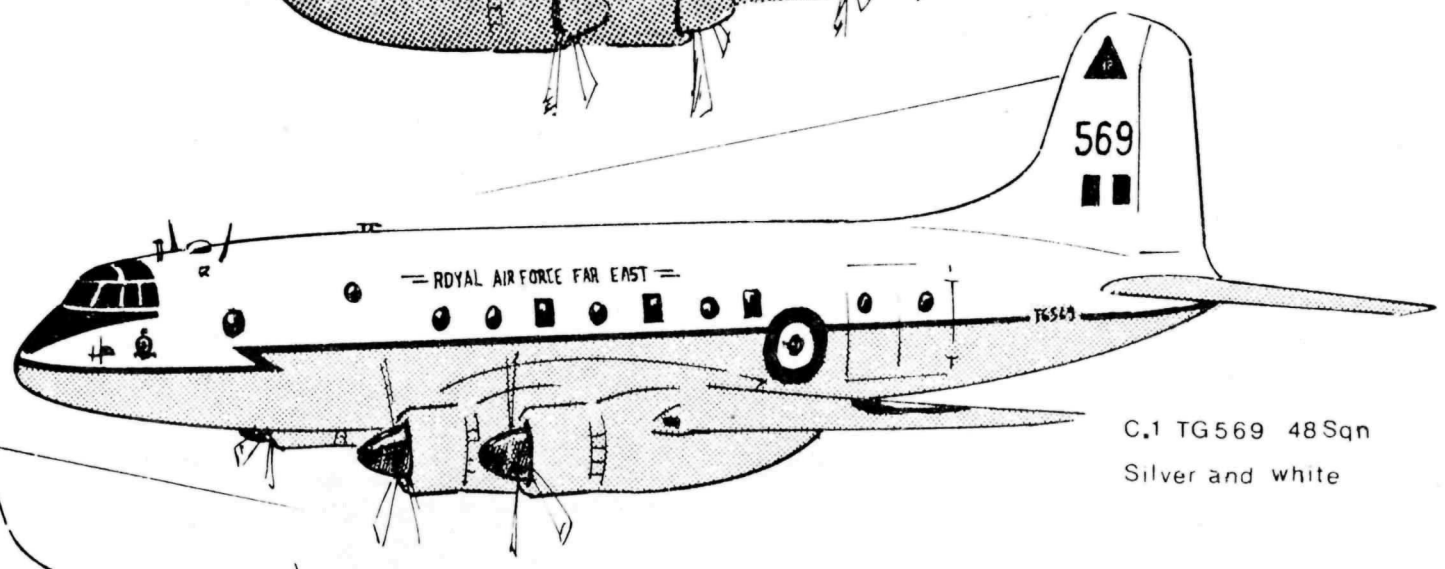
24 Sqn
Black

LXX
Blue

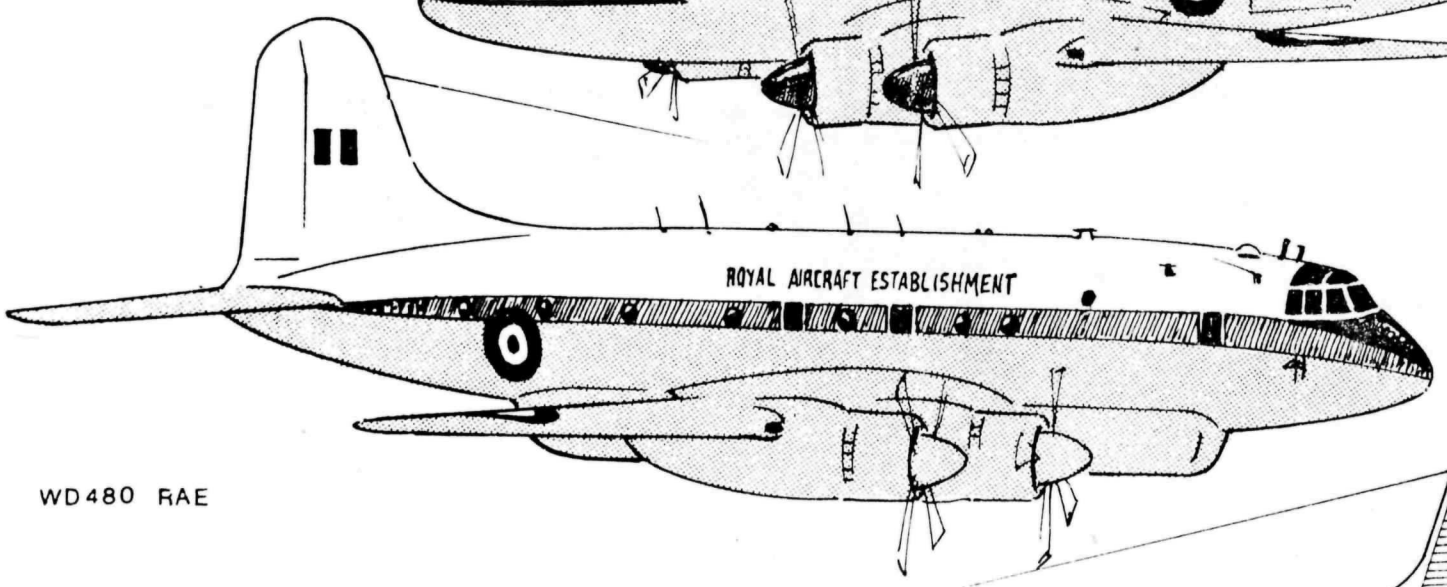


Met.1 TG623
Dark sea grey overall
White top and nose

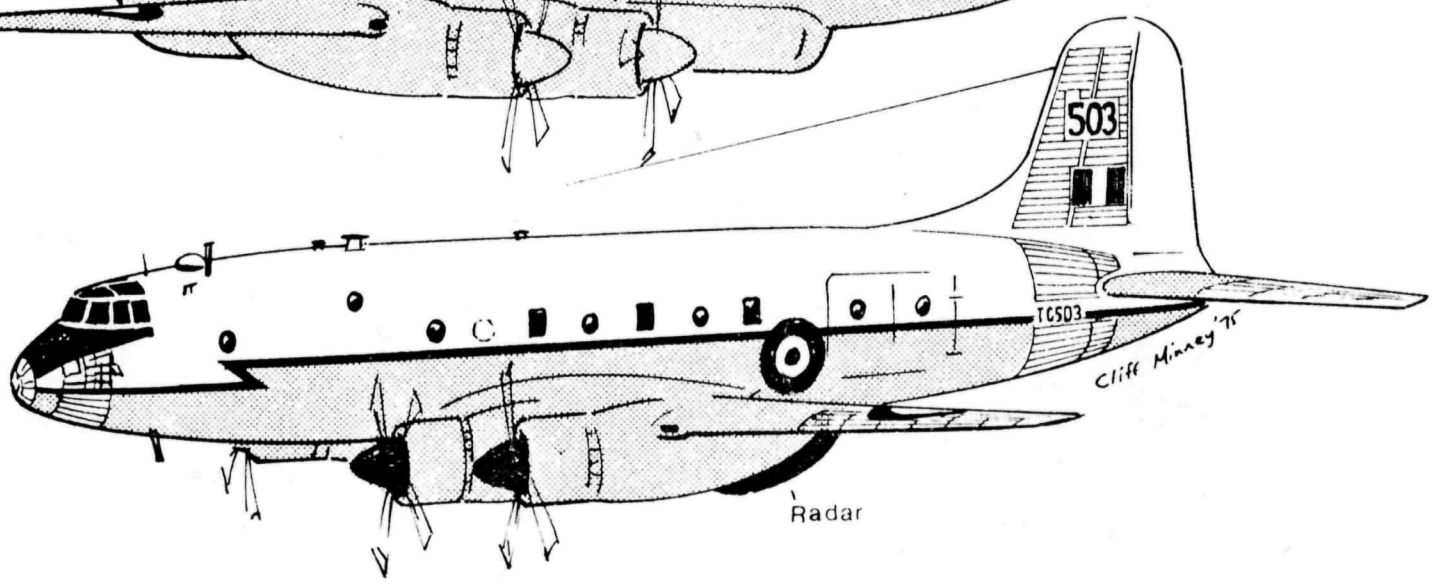
48 Sqn
White on red



C.1 TG569 48 Sqn
Silver and white



WD480 RAE



Radar

T.5 TG503 SCBS White and silver Dayglo tape strips

Service Use

TG499	AAEE & RAE	Hit cables and crashed, Beacon Hill, Wilts. 26.9.49
TG500	AAEE	
TG501	Mkrs/AAEE & ETPS	SOC 29.6.66
TG502	RAE	
TG503	AFEE/RR Flt/RRE/BCBS/Cv.to T.5/BCBS/ MoA/BCBS/AAEE/SCBS	
TG504	AAEE/47/Dishforth/Topcliffe/Cv.to Met.1/202	SOC 8.8.66
TG505	47/Cv.to Met.1/202/Cv.to T.5/BCBS/ SCBS	
TG506	PTU/WEE/RAE/24-36/202	SOC 4.10.66
TG507	EFS/47/Dishforth/Topcliffe/Lyneham/ 202/FECS/24-36/242 OTU/MoA/51	To MinTech 17.10.68
TG508	EFS/47/Dishforth/Topcliffe/Lyneham/ 202/53-99/242 OCU	Crashed on landing 7.3.62
TG509	CA/53-99-511/242 OCU/70	SOC 9.11.67
TG510	47/241 OCU/24/47/1312 Flt/511/36/ 242 OCU	SOC 1.11.66
TG511	47/99-511/Cv.to Met.1/202/Cv.to T.5/ BCBS/SCBS	
TG512	TCDU/Dishforth/Topcliffe/241 OCU/ 53-99-511	SOC 27.11.59
TG513	53-99/511/242 OCU/70/24-36	SOC 8.9.67
TG514	47/Dishforth/Topcliffe/Lyneham/ Cv.to Met.1/RRE	
TG515	TCEU/53-99/242 OCU	SOC 4.11.59
TG516	Dishforth/Topcliffe/Cv.to Met.1/ re-cv.C.1/53-99-511/99/36/48	SOC 21.1.72
TG517	47/53/Cv.to Met.1/202/Cv.to T.5/SCBS	
TG518	47/Topcliffe/202/53-99/Cv.to T.5/ BCBS/SCBS	SOC 13.5.69
TG519	47	Crashed on approach, Dishforth, 2.10.48. to 6609M
TG520	47/Topcliffe/24-47/48/FECS/48/FECS/48	SOC 27.2.67
TG521	47/Topcliffe/Lyneham/CA/53-99/53/ 242 OCU/Cv.to T.5/BCBS/SCBS	SOC 9.7.71
TG522	47/Topcliffe/53-99/36	Crashed on approach, Khartoum 29.5.59
TG523	47/Topcliffe/Lyneham/53-99/47/24/70/ 48	SOC 15.2.67
TG524	47/Topcliffe/53-99-511/114/AAEE/70/ 24-36/70	SOC 2.7.71
TG525	47/Topcliffe/53-99/48	SOC 9.3.67
TG526	47/Topcliffe/Lyneham/24/24-47/70/48	SOC 9.3.67
TG527	47/Topcliffe/47/Topcliffe/24-47/CA/24/ 24-36-114/24/BCBS/SCBS	SOC 4.11.68
TG528	47/Topcliffe/53-99/242 OCU/24-36/24	SOC 25.1.68. To Skyfame Museum
TG529	47/Topcliffe/Lyneham/53-99/Cv.to T.5/ BCBS/SCBS	SOC 30.4.69
TG530	47/Topcliffe/99/Topcliffe/Lyneham/53-99/ 242 OCU/70/151/51	SOC 29.8.67
TG531	Dishforth/Topcliffe/Lyneham/53-99-511/ 48/	SOC 1.11.66
TG532	Dishforth/Topcliffe/Lyneham/53-99/ 24/36/24-36/	SOC 14.1.66
TG533	AAEE & AFEE/202/242 OCU/24-36/70	SOC 18.12.67
TG534	Dishforth	Destroyed in ground fire, Dishforth, 6.4.49

TG535	Dishforth/Topcliffe/241-242 OCU/70/ 24-36/24	SOC 17.1.68
TG536	241 OCU/47/47-53/53-99-511/242 OCU/ 48/242 OCU/BCBS/SCBS	
TG537	Dishforth/Topcliffe/Lyneham/24/511/ 36/242 OCU/24-36/242 OCU	SOC 8.8.66
TG551	Dishforth/Topcliffe/Lyneham/53-99/ 242 OCU/70/24-36/70	SOC 5.11.67
TG552	Dishforth/Topcliffe/Lyneham/	Crashed on landing 12.4.51
TG553	47/99-511/Cv.to T.5/BCBS/SCBS	
TG554	202/242 OCU/53-99/242 OCU	SOC 4.11.59
TG555	Dishforth/Topcliffe/241 OCU/242 OCU	SOC 6.2.60
TG556	Topcliffe/Lyneham/53-99-511/24/24-36/	SOC 25.8.67
TG557	Topcliffe/Lyneham/53-99-511/511/36/ 114/70/24-36	SOC 3.9.68
TG558	241 OCU/242 OCU	SOC 4.11.59
TG559	Dishforth/Topcliffe/Lyneham/24-47	Crashed on landing 9.10.53.To 7108M
TG560	CSE/116/CSE	SOC 4.3.58
TG561	Dishforth/Topcliffe/Lyneham/242 OCU/ 70	SOC 8.2.67
TG562	Dishforth/Topcliffe	Crashed on take-off 14.3.52
TG563	241 OCU/Topcliffe/Lyneham/47/53-99/ 242 OCU/99/70	SOC 31.10.67
TG564	Dishforth/Topcliffe/Lyneham/53-99	Crashed on overshoot 27.7.53
TG565	Dishforth/Topcliffe/Lyneham/Cv.to Met.1/202/242 OCU/202	SOC 30.11.66
TG566	241 OCU/Topcliffe/Lyneham/Cv.to Met.1/ 242 OCU/202	Crashed on take-off, Aldergrove, 19.9.62
TG567	241 OCU/Topcliffe/Cv.to Met.1/202/ AAEE	SOC 1.6.66
TG568	TCDU/PTS/24/53-99/24/SCBS	
TG569	Dishforth/Topcliffe/Lyneham/242 OCU/ 53-99/48	SOC 1.11.66
TG570	241 OCU/Lyneham/242 OCU/48/242 OCU	SOC 11.11.67
TG571	241 OCU/Topcliffe/Lyneham/24/1312 Flt/ 99/70/24-36/242 OCU	SOC 7.6.67
TG572	241 OCU/Topcliffe/Cv.to Met.1/242 OCU/ 202	SOC 31.8.66
TG573	241 OCU/Topcliffe/47/53-99	SOC 22.1.59. To 7594M
TG574	241 OCU/Lyneham	Crashed on approach 20.12.50
TG575	241 OCU/Lyneham/241 OCU/24/70	Crashed on landing 4.5.66
TG576	241 OCU/Cv.to Met.1/202/242 OCU/70/ 24-36	SOC 22.8.67
TG577	241 OCU/Topcliffe/Lyneham/242 OCU/ 242 OCU/53-99/511/36/70/24-36	Crashed on approach, Abingdon, 6.7.65
TG578	241 OCU/53-99/242 OCU	SOC 4.11.59
TG579	241 OCU/Lyneham/TCASF/242 OCU/48	Crashed in sea off Gan 1.3.60
TG580	241 OCU/Topcliffe/241 OCU/Abingdon/ TCASF/24-47/48	Crashed on landing 3.7.59
TG581	241 OCU/242 OCU/24-36	SOC 23.8.67
TG582	241-242 OCU/TCDF/47/24/70/24-36	SOC 30.12.65
TG583	241 OCU/Topcliffe/Lyneham/241 OCU/	Crashed on approach 31.7.50
TG584	241 OCU/53-99/242 OCU	Crashed on overshoot 13.9.55
TG585	241 OCU	SOC 8.2.60
TG586	241 OCU/Lyneham/241 OCU/242 OCU	SOC 4.11.59
TG587	242 OCU/53-99-511/36/242 OCU	SOC 17.8.67
TG601	Dishforth/Topcliffe/1 PTS/Abingdon/ Lyneham/Abingdon/24-47/1312 Flt/24/ 47/242 OCU	SOC 23.11.59
TG602	Dishforth/Topcliffe/1 PTS/TCASF	Crashed after structural failure, 12.1.53

TG603	Dishforth/Topcliffe/24-99	Blown off runway and DBR 16.6.52
TG604	241 OCU/Lyneham/Topcliffe/Lyneham/53-99/ 242 OCU/24-36	SOC 15.8.67
TG605	Dishforth/Topcliffe/24/53-99/24/114/ 24-36	SOC 7.11.67. To 7987M
TG606	Dishforth/Lyneham/24-47/24/114/70	SOC 30.11.66
TG607	Dishforth/Topcliffe/24/Lyneham/24/ 24-36-114	SOC 1.8.67
TG608	Dishforth/Topcliffe/24/24-47/511/70/ 242 OCU/24-36/242 OCU	SOC 21.9.67
TG609	Dishforth/Topcliffe/24/Lyneham/Dishforth/ 242 OCU	SOC 8.2.60
TG610	Dishforth/53-99/47/53-99/48/242 OCU	Crashed on landing, Thorney Is. 17.12.63
TG611	Dishforth	Crashed at Tegel 16.7.49
TG612	241 OCU/242 OCU/70/48	SOC 14.11.66
TG613	Topcliffe/47/Lyneham/53-99	Ditched in Mediterranean 22.7.53
TG614	Lyneham/24-47/TCASF/24-47/70/48	SOC 9.3.67
TG615	Topcliffe/1 PTS/TCASF/24-47/1312 Flt/511	Crashed on approach 21.10.57
TG616	Topcliffe/Lyneham/511/Cv.to Met.1/ Rev.to C.1/53-99/114/36/242 OCU	SOC 27.11.67
TG617	RAFFC/242 OCU	SOC 16.12.59
TG618	RAE & Met.Res.Flt	SOC 29.6.68
TG619	RAE & Met.Res.Flt	SOC 1.70
TG620	Cv.to Met.1/202/Cv.to C.1/36/24-36/48	SOC 9.3.67
TG621	Cv.to Met.1/202/Cv.to C.1/70/202/ 24-36/24	SOC 12.2.68
TG622	Cv.to Met.1/202	SOC 31.10.66
TG623	Cv.to Met.1/202	SOC 3.3.67
TG624	Cv.to Met.1/202	Crashed on take-off 27.12.61
WD475	Abingdon/24-47/53-99-511/511/36/114/ 24-36/70	SOC 6.12.67
WD476	CA/511/24/24-36/24	SOC 25.9.69
WD477	AAEE/511/24-36/24	SOC 30.1.68
WD478	RAFFC	Crashed on take-off, Manby 19.3.51
WD479	Abingdon/24-47/24/48	SOC 6.3.67
WD480	RRE/RAE	
WD481	511/53-99-511/511/36/114/48	SOC 25.4.67
WD482	RRE	
WD483	Abingdon/24-47/70	Crashed on landing, Ataq, 9.4.56
WD484	RRE	SOC 29.3.55
WD485	Abingdon/24-47/TCASF/1312 Flt/99/ 36/114/24-36/24	SOC 25.9.69
WD486	1 PTS/24-47/511/24-47/24/114/70	SOC 29.11.67
WD487	1 PTS/24-47/TCASF/24/24-36/24	SOC 14.10.68
WD488	Lyneham/24-47/511/53-99-511/511/36/48	SOC 26.11.65
WD489	47/24/70	SOC 12.2.68
WD490	Topcliffe/24-47/48/70	SOC 11.10.67. To 7985M
WD491	24-47/53-99-511/24/24-36	Crashed on take-off 9.6.67 and DBR
WD492	Topcliffe	Crashed during supply drop in Greenland, 16.9.52
WD493	Topcliffe/Abingdon/TCDU/TCDF/24/24-36/	SOC 2.2.68
WD494	24/47/RAFFC/24-47/24/24-36	SOC 20.9.67
WD495	47/1312 Flt/99/36/114/24-36/24	SOC 7.2.68
WD496	CA	
WD497	Lyneham/47/TCASF/53-99-511/511/36/48	Crashed during practice supply drop, Seletar 29.5.61
WD498	24-47/TCASF/48/70	Crashed on take-off 10.10.61
WD499	RAFFC/53-99-511/24/24-36/48	To MinTech 20.3.67
WD500	Built as C(VIP).4.AAEE/24/FECS/24/70	SOC 31.1.70

WJ324	Built as C(VIP).4. Topcliffe/24/70/ FECS	SOC 9.3.67
WJ325	Built as C(VIP).4. FECS/24/SF Khormaksar/MECS/FECS	SOC 28.3.68
WJ326	Built as C(VIP).4. 24-47/FECS/MECS	SOC 2.7.71
WJ327	RAFFC/24/99/24/24-36/24/RAE	SOC 5.73
WJ328	511/70/36/70	SOC 28.3.68
WJ329	511/53-99-511/511/36/24-36-114/24	SOC 25.9.69
WJ330	RAFFC/511/99/24/114/24-36/24	SOC 25.9.69
WJ331	511/99/24/114/24-36-114/24	SOC 15.2.71
WJ332	511/53-99-511/99/24/114/48/FECS	SOC 13.8.68
WJ333	511/53-99-511/36/48/FECS	SOC 14.3.67
WJ334	511/36/24-36/24	SOC 5.2.68
WJ335	511	Crashed on take-off, 22.6.53
WJ336	511/48/FECS	SOC 5.11.68
WJ337	511/53-99-511/70/99/24/114/48/FECS	SOC 5.11.68
WJ338	511/CSE/CSDS/151/97/115	SOC 4.7.69
WJ339	511/53-99-511/99/24/24-36/24	SOC 25.9.69
WJ340	511/53-99-511/24/24-36/24	SOC 7.2.68
WJ341	511/24-47	Crashed on landing 26.7.55
WJ352	24-47/47/511/36	Undercarriage collapsed while taxying, Eastleigh, Kenya and DBR 23.1.61
WJ343	511/99/36/24-36/24	SOC 25.9.65

Abbreviations

Numbers only indicate squadrons. Other abbreviations relate to miscellaneous units and can be identified from the list on page 2. SOC: Struck off charge; DBR: Damaged beyond (economic) repair; MinTech: Ministry of Technology; Cv.: Converted; Rev.: Reverted; SF: Station Flight.

Disposal

For firefighting practice:

Abingdon: TG527, TG537
Benson: TG571
Cambridge: TG510
Cardiff: TG601
Carlisle: TG518
Catterick: TG565, TG570, WD481, WJ338
Colerne: TG582
Cosford: TG566
Farnborough: TG619
Finningley: TG504, TG533
Leeming: TG608
Lindholme: TG530, TG532
Lyneham: TG621
Manston: TG501, TG506, TG513, TG623
Marham: TG616
North Coates: TG622
Odiham: TG535
Scampton: WD493
Shawbury: TG572, WD487
Stansted: TG529, TG581, WD494
Strubby: WJ340
Topcliffe: TG587
Watton: TG556
Wildenrath: TG607
Wittering: WD475
Wyton: WD491

Static Use:

16 Ind.Para Bde, Aldershot: TG512
Army Air Transport Development Centre: TG617

AVRO SHACKLETON MR.3 IN ROYAL AIR FORCE SERVICE

During the official trials of the Avro Shackleton MR.1 carried out at A&AEE, Boscombe Down, it had been found that the efficiency of the radar scanner left much to be desired. As radar was the main detection device at that period, it was felt that the radar scanner was very vulnerable to bird strikes in its nose position. The scanner of VW131, the second prototype, had been smashed by a bird strike on the return flight from Khartoum where tropical trials had been carried out in October 1950.

It was therefore decided to redesign the nose section of the Shackleton to give better protection to the radar scanner by positioning it under the rear fuselage. At the same time other improvements were thought necessary so Issue 2 of the basic Specification R.5/46 was issued in July 1950 to approve the modifications, the redesigned aircraft to be known as the Shackleton MR.2. The other improvements were the fitting of toe-operated brakes with lockable rudders to give better ground control, a nose turret fitted with two 20mm cannon with a prone bomb-aimer's position under it and twin retractable tailwheels. The prototype (WB833) flew on 17 June 1952 and the Shackleton MR.2 entered service alongside MR.1s with the squadrons in January 1953.

Most of the basic faults of the MR.1 remained unchanged in the MR.2, the same black-painted interior with no soundproofing, the constant vibration and the same uncomfortable seats. Complaints from the squadrons kept pouring in for improvements in working conditions and after trials at Farnborough it was decided to redesign the aircraft completely, incorporating all the requested improvements and at the same time updating the design. Issue 3 of Specification R.5/46 was released on 18 November 1953 to approve this work. The new aircraft was to be known as the Shackleton MR.3 and work on the redesign was started in 1954.

Externally, the new aircraft differed little from the MR.2 but a tricycle undercarriage with twin wheels, hydraulic brakes and nosewheel steering was fitted and this, coupled with a nose entrance hatch for the crew, meant a slight shortening of the weapons bay which was based on current "V-Bomber" technology. Larger ailerons were fitted for better control, tip tanks to increase fuel capacity and a fuel jettison system. But the real improvements were internal for crew comfort; the whole fuselage was lagged with thick glass fibre and covered with brown and cream rexine. Coupled with a sealed engine exhaust system that took the exhaust under the wing, these gave the looked-for vast improvement in working conditions. All crew positions had large padded armchairs, a clear-vision perspex canopy was fitted over the cockpit for better vision and the tactical team was seated side-by-side facing left to give better efficiency. Provision was made for the fitting of new equipment as it became available. The dorsal turret was deleted to allow a crew rest and catering area to be built in mid-fuselage.

The prototype flew on 2 September 1955 but was found to have very bad stalling characteristics and was lost in a crash on 7 December 1956 while carrying out further stalling tests. A remedy was eventually found and the type entered service with No.220 Squadron at St.Eval on 30 August 1957. Initially 52 MR.3s were ordered (WR970 to 990 and XF700 to 730) under a continuation of Contract 6408 but the 1956 Defence Review cut this back to 33 aircraft, terminating at XF711. One further aircraft (XF730) was ordered after the loss of WR970.

Four squadrons reequipped with the new type during 1958 and in 1959 a start was made on updating the equipment on board. This was done in three phases: Phase 1 was primarily an internal equipment improvement and the modified aircraft started arriving on squadrons in early Summer 1959.

Phase 2 introduced ECM equipment that required a large lighthouse-like aerial on the mid-fuselage roof. Improved HF required the resiting of the HF aerial posts further back and these aircraft reached squadrons in late 1961. Phase 3 involved considerable structural rebuilding, the wing main spars being rebuilt and strengthened so that Bristol-Siddeley Viper jet engines could be fitted in the back of the outboard engine nacelles to restore the performance that had been eroded by the fitment of all the extra equipment.This phase also saw the fitting of a completely new navigation and compass system and an internal rebuild to lengthen the tactical team table and shorten the crew rest area. The Griffon engines were slightly modified to become Mk.58s and the Phase 3 aircraft started arriving on the squadrons without the Viper engines in early 1965, the Vipers being fitted during 1966/67.

The introduction of Nimrods into service in 1970 saw the start of the phasing out of the Shackleton MR.3. The Viper jets which had been necessary to restore performance had brought on early fatigue in the wings and by the end of 1971 all MR.3 aircraft had been withdrawn from squadron service, the last being flown back from No.203 Squadron in Malta in December 1971. One of the 34 Shackleton MR.3s never saw RAF service. This was WR972 which was purchased on 13 March 1959 by the Ministry of Aviation for the Royal Aircraft Establishment at Farnborough.

Units equipped with Shackleton MR.3s were:

No.42 Squadron, which had been operating Shackleton MR.2 Phase 2 aircraft at St.Mawgan, started reequipping with MR.3 Phase 3 aircraft in November 1965 and had a full complement of six by June 1966. Nimrod conversion began in April 1971 and all MR.3s were out of service by September 1971.

No.120 Squadron, operating MR.2s out of Aldergrove, started receiving MR.3s in July 1958 and had their quota of six by November 1958. On 1 April 1959 the squadron moved to Kinloss. Phase 1 aircraft were received from March 1960, Phase 2 from December 1961 and Phase 3 from July 1965. Nimrod conversion began in October 1970 and the last MR.3 Phase 3 was flown out of Kinloss by a No.120 Squadron crew on 21 December 1970.

No.201 Squadron reformed at St.Mawgan on 10 October 1958 by renumbering No.220 Squadron and took over seven Shackleton MR.3s. The first Phase 1 aircraft was received on 17 February 1959, the first Phase 2 on 4 June 1962 and the first Phase 3 on 1 April 1965. During March and April 1965 the squadron moved to Kinloss and conversion to Nimrods was started in March 1970, the last Shackleton leaving on 16 December 1970.

No.206 Squadron moved to St.Mawgan on 14 January 1958 and half the squadron converted to MR.3s. Due to the very slow supply of MR.3s, the other half of the squadron remained on MR.1s, taking four of No.220's discarded MR.1s (VP263, 265, 294 and WB851). The first MR.3 was received on 22 January 1958 and it was mid-June before all six were received. First Phase 1 aircraft was received on 5 June 1959, the first Phase 2 on 31 August 1961 and the first Phase 3 in January 1965. In July 1965 the squadron moved to Kinloss. Conversion to Nimrods began in August 1970 and was completed in December, the last Shackleton being withdrawn in the summer of 1970.

No.203 Squadron was reformed at Ballykelly on 1 November 1958 by renumbering No.240 Squadron and five MR.1s were taken over. Conversion to MR.3s began in December 1958 and all six aircraft had been received by the end of the month. The first Phase 1 aircraft was received in November 1959 and the first Phase 2 in August 1961. In the Spring of 1962 the squadron converted to MR.2s because of the aircraft shortage during the modification period and received its first MR.2 on 17 April 1962. During Summer 1966 the squadron reconverted back to the MR.3 (but Phase 3 aircraft) the first being received on 28 June. No.203 moved to Luqa, Malta, on 29 January 1969 but on arrival on 30 January it had to operate out of Hal Far due to runway resurfacing at Luqa, eventually moving in during the summer. Conversion to Nimrods started in October

1971 but a move was made to Sigonella in Sicily in December 1971 due to the argument with the Maltese Prime Minister over the cost of the Malta service establishments. The last four Shackletons left the squadron during December for No.5 MU Kemble. The squadron moved back to Luqa on 23 April 1972.

No.220 Squadron, equipped with Shackleton MR.1s at St.Eval began converting to MR.3s in August 1957 and carried out the service trials on this type. It moved to St.Mawgan in September but due to the slow delivery rate it was January 1958 before the sixth aircraft was received. A seventh was received in June but on 10 October 1958 the squadron was renumbered 201.

Air-Sea Warfare Development Unit had the use of WR974 as a Phase 2 aircraft in Summer 1966 and again as a Phase 3 aircraft in Spring 1968.

Service Use

WR970	Mkrs & AAEE	Crashed near Foolow, Peak District Derbyshire on 7.12.56
WR971	Mkrs/AAEE/206/120/201/KS	To Cosford as 8119M 16.12.70
WR972	-	Bought by MoA for RAE 13.3.59
WR973	MoA/203/206/MoA/206/KS/42	To Thorney Island for fire practice 14.6.71
WR974	MoA/203/MoA/ASWDU/MoA/ ASWDU/203/42/203/KS	To Cosford as 8117M 11.12.70
WR975	AAEE/220/201/203/206/120/KS	SS 1.10.71
WR976	220/201/206/MoA/206/201	Crashed into sea 200 miles off Cornish coast 19.11.67
WR977	220/201/206/201/42/203/206/ 42/203	To Finningley for fire practice 8.11.71
WR978	220/201/206/42/206/42	To Catterick Fire School 26.11.70
WR979	220/201/206/120/KS	SS 1.1o.71
WR980	220/201/206/201/120/206/KS	To Catterick Fire School 26.11.70
WR981	206/120/203/201/120/201/ 120/KS	To Topcliffe as 8120M 17.12.70
WR982	206/MoA/206/203/MoA/120/ 201/AAEE/201/KS	To Cosford as 8106M 6.10.70
WR983	206/120/KS	Broken up at Kemble Summer 1970; parts to Colerne for instructional purpose, remains SS December 1970
WR984	206/203/201/120/42	To Topcliffe as 8115M 7.71
WR985	206/AAEE/206/203/206/120/ 201/KS	To Cosford as 8103M 25.9.70
WR986	206/203/201/120/203	Broken up at Luqa after severe damage to wing by rodents 1.9.71
WR987	220/201/120/203	To Honington for fire practice 17.6.72
WR988	120/203/201/203	SOC 25.4.72
WR989	120/201/MoA/201/KS/203	To Leeming for fire fighting practice 14.7.72
WR990	120/201/KS	To Newton as 8107M 17.10.70
XF700	120/206/201/206/201/KS/203	To Nicosia Airport for fire practice 26.10.71
XF701	120/MoA/206/201/206/KS/42	To Manston Fire School 13.8.71
XF702	203/120/206/MoA/206/120	Crashed vertically into Creag Bhan, Lochailort, Invernessire 21.12.67
XF703	203/120/203/206/201/MoA/ 120/KS/42	To Henlow for RAF Museum as 42/J, 23.9.71
XF704	203/120/201	Crashed into Moray Firth 8 m North of Kinloss 8.12.65
XF705	203/120/203/201/206/AAEE/ KS/42	To Manston Fire School 20.8.71
XF706	203/120/203/201/42/206/42	To St.Mawgan as 8089M 6.3.70
XF707	201/206/42	To Benson for fire practice 28.4.71

XF708	201/120/MoA/203	To Duxford as flying exhibit for Imperial War Museum 23.8.72
XF709	201/120/203/MoA/201/KS	SS 1.10.71
XF710	201/120	Forcelanded on Culloden Moor on fire and destroyed 10.1.64
XF711	201/MoA/42/120/KS/42	To Abingdon for fire practice 7.6.71
XF730	206/201/120/42	To Kinloss for fire practice 24.6.71

Abbreviations: SS: Sold as scrap; SOC: struck off charge; Mkrs: Makers; AAEE: Aeroplane & Armament Experimental Establishment; RAE: Royal Aircraft Establishment; KS: Kinloss; MoA: Ministry of Aviation; ASWDU: Air-Sea Warfare Development Unit.

Unit Allocations

No.42 Squadron (All Phase 3)

WR973(B)	Dec 1970 - June 1971	XF703(D)(J)	Jun 1970 - Sep 1971
WR974	Sep 1968 - Feb 1969	XF705(G)(A)	Mar 1970 - Aug 1971
WR977 (B)	May 1966 - May 1968	XF706(E)	Dec 1965 - July 1969
	Aug 1969 - Aug 1970		Sep 1969 - Feb 1970
WR978(A)	Nov 1965 - July 1969	XF707(D)	Jan 1966 - Aug 1971
	Sep 1969 - Apr 1970	XF711(G)(C)(G)	Mar 1966 - Jun 1967
WR984(C)	Nov 1967 - Nov 1970		Feb 1970 - June 1971
XF701(B)(H)	Jun 1970 - Aug 1971	XF730(F)	Jun 1966 - June 1971

No.120 Squadron

WR987(G)	Nov 1958 - June 1960	WR990(D)	Sep 1958 - Mar 1960
WR988(C)	Jul 1958 - Aug 1960	XF700(A)	Sep 1958 - Apr 1960
WR989(B)	Aug 1958 - June 1960	XF701(F)	Oct 1958 - May 1960

Phase 1

WR971(C)	Oct 1960 - Apr 1962	XF702(D)	Mar 1960 - Aug 1961
WR981	Apr 1960 - May 1961	XF703(F)	May 1960 - May 1961
WR987(G)	Jul 1961 - Feb 1962	XF704	May 1960 - May 1962
WR989(B)	Aug 1961 - Oct 1961	XF705	Jun 1960 - Nov 1961
WR990(F)	Apr 1961 - Oct 1962	XF706	Mar 1960 - July 1961
XF700	May 1961 - Dec 1961		

Phase 2

WR971(E)	May 1962 - Sep 1963	XF700(A)	Jul 1962 - Aug 1963
WR980	May 1965 - June 1965	XF704(D)	Jul 1962 - Oct 1963
WR982(A)	Nov 1965 - Mar 1966	XF708(A)	Aug 1963 - Nov 1965
WR986(E)	Sep 1963 - Oct 1965	XF709(D)	Oct 1963 - Oct 1965
WR987(C)	Apr 1962 - Sep 1965	XF710(F)	Nov 1963 - Jan 1965
WR989(B)	Dec 1961 - Dec 1963	XF730(B)	Dec 1963 - June 1965
WR990(N?)	Jan 1963 - Nov 1963		

Phase 3

WR975(A)	May 1966 - Jan 1967	WR983(E)	Oct 1965 - Mar 1970
	Jul 1967 - Aug 1970	WR984(C)	Aug 1965 - Nov 1967
WR979(D)	Oct 1965 - Feb 1967	WR985(H)	May 1966 - June 1966
	Jun 1967 - July 1970	XF702(B)	Jun 1966 - Dec 1967
WR981(B)(G)	Jul 1965 - May 1966	XF703(F)	Aug 1968 - June 1970
	Feb 1967 - Nov 1970		

No.201 Squadron

WR975(P)	Oct 1958 - Aug 1959	WR979(N)	Oct 1958 - Apr 1959
WR976(K)	Oct 1958 - Apr 1969	WR980(O)	Oct 1958 - Mar 1959
WR977(L)	Oct 1958 - May 1959	WR987(R)	Oct 1958 - Nov 1958
WR978(M)	Oct 1958 - May 1959		

Phase 1

WR979(N)	Sep 1959 - Oct 1961	XF709(N)	Apr 1959 - July 1962
WR986(M)	Oct 1961 - July 1962	XF710(N)(K)	Apr 1959 - Aug 1962
XF707(P)	Feb 1959 - Apr 1962	XF711(L)	May 1959 - Dec 1961
XF708(O)	Mar 1959 - May 1962	XF730(L)	Dec 1961 - Sep 1962

Phase 2

WR977(O)	Apr 1963 - July 1965	WR988(K)	Oct 1962 - June 1965
WR980(L)	Mar 1964 - May 1965	XF701(N)	Feb 1965 - May 1965
WR981(P)	Jun 1962 - Jan 1964	XF705(M)	Jun 1962 - Mar 1965
WR984(P)	Jul 1962 - Mar 1964	XF706(N)	Aug 1962 - Nov 1964

Phase 3

WR971(O)(Q)	Apr 1965 - Dec 1970	WR989(M)(K)	Apr 1967 - Apr 1968
WR974(K)	Apr 1970 - Dec 1970		Jul 1968 - Mar 1970
WR976(M)(K)	Apr 1965 - Apr 1966	WR990(N)	May 1965 - Sep 1970
	Oct 1966 - Nov 1967	XF700(M)	May 1966 - Dec 1966
WR981(N)	May 1966 - Sep 1966		Jun 1968 - Jan 1969
WR982(J)	Aug 1966 - Sep 1970	XF703(O)	Mar 1966 - Apr 1967
WR985(H)	Oct 1966 - Sep 1970	XF704(L)	May 1965 - Dec 1965
WR989(K)	Jun 1965 - Dec 1966	XF709(M)	May 1969 - July 1970

No.203 Squadron

WR974(F)	Dec 1958 - June 1960	XF704(G)	Nov 1958 - Feb 1960
XF702(H)	Nov 1958 - Jan 1960	XF705(C)	Dec 1958 - Feb 1960
XF703(L)	Dec 1958 - Jan 1960	XF706(G?)	Dec 1958 - Dec 1959

Phase 1

WR973	Feb 1960 - Jan 1962	WR985(E?)	Jan 1960 - Aug 1961
WR975(F)	Nov 1959 - Aug 1961	WR986(K)	Dec 1959 - Oct 1961
WR982(G)	Jan 1960 - Nov 1961	XF703(L)	May 1961 - Nov 1961
WR984(H)	Feb 1960 - Oct 1960	WR988(K)	Aug 1961 - July 1962

Phase 2

WR974(H)	Aug 1968 - Sep 1968	WR988(E)(S)(E)	Jun 1966 - Dec 1971
	Feb 1969 - Apr 1970	WR989(K)	Mar 1970 - Dec 1971
WR977(B)	Jul 1968 - Jul 1969	XF700(F)	Jan 1969 - Oct 1971
	Aug 1970 - Nov 1971	XF708(C)	Feb 1967 - Dec 1971
WR986(G)	Oct 1966 - Sep 1971	XF709(F)	Aug 1966 - Nov 1968
WR987(D)	Dec 1966 - Dec 1971		

No.206 Squadron

WR981(A)	Jan 1958 - Nov 1959	WR984(D)	Apr 1958 - Nov 1959
WR982(B)	Mar 1958 - Nov 1959	WR985(E)	Jun 1958 - Oct 1959
WR983(C)	Apr 1958 - Jan 1960	WR986(F)	Jun 1958 - Oct 1959

Phase 1

WR976(F)	Oct 1959 - Mar 1963	WR980(E?)	Oct 1959 - Nov 1961
WR977(B)	Nov 1959 - Jan 1962	XF730(C)	Jun 1959 - Dec 1961
WR978(A)	Oct 1959 - Apr 1962		

Phase 2

WR973(C)	Jan 1962 - July 1963	WR985(A)	Feb 1962 - June 1963
WR978(A)	Jun 1963 - Dec 1964	XF701(E)	Aug 1961 - Feb 1965
WR979(B)	Jan 1963 - Nov 1964	XF702(B)	Nov 1961 - Jan 1963
WR980(D)	Mar 1963 - Mar 1964	XF703(D)	Apr 1962 - Mar 1963
WR983(F)	Feb 1960 - Feb 1963	XF707(C)	Jul 1963 - Feb 1965
	May 1963 - Nov 1964		

Phase 3

WR973(U)	May 1965 - Oct 1970	XF700(U)	Mar 1965 - May 1966
WR975	Jan 1965 - May 1966		Apr 1967 - May 1968
WR977	Jul 1969 - Aug 1969	XF701(T)	Apr 1966 - June 1970
WR978	Jul 1969 - Sep 1969	XF702(Q)	Nov 1964*- June 1966
WR980(S)	Mar 1966 - Apr 1970	XF703(R)	Dec 1964*- Mar 1966
WR985(T)	Feb 1965 - May 1966	XF705(R)	Mar 1969 - Mar 1970
*actually delivered Jan 1965		XF706	Jul 1969 - Sep 1969

Air-Sea Warfare Development Unit

Phase 2 WR974 Jun 1966 - July 1966
Phase 3 WR974 Feb 1968 - Apr 1968

Royal Aircraft Establishment

WR972 Mar 1959 - 1973

Note:

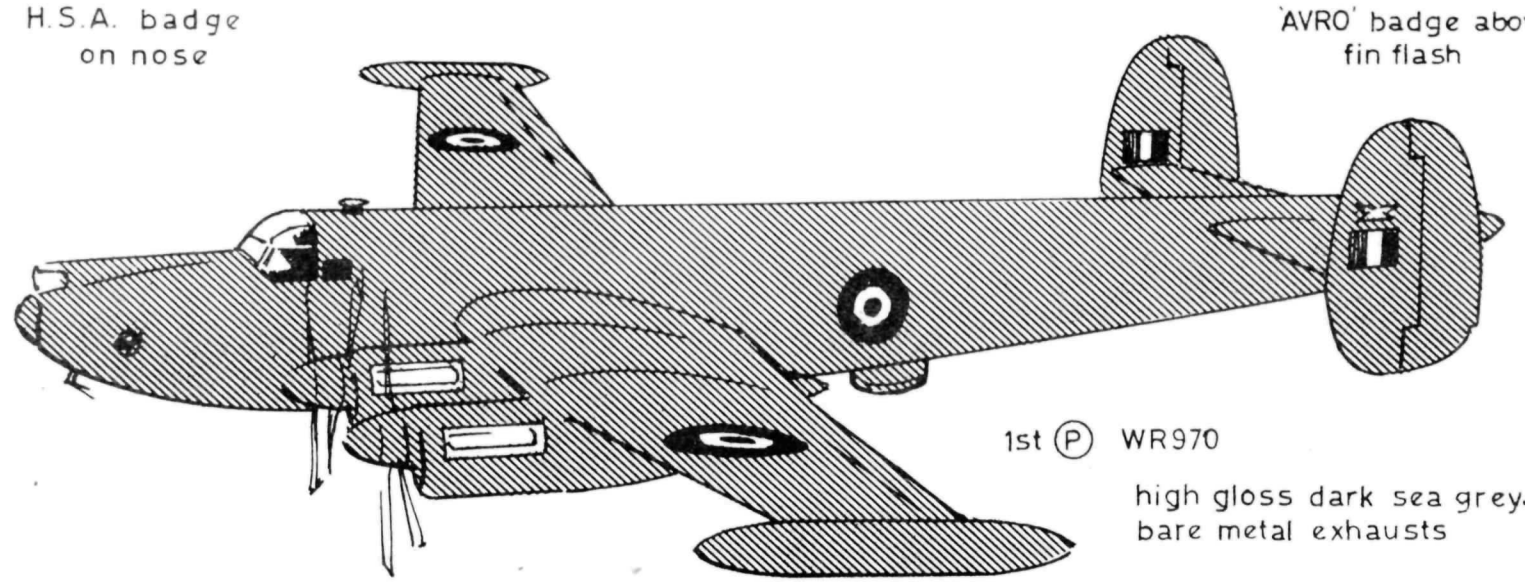
In February 1967, Central Servicing was introduced at Kinloss and the squadrons based there (Nos.120, 201 and 206) gradually lost their own aircraft. In any case, during the 1966 repainting scheme the squadron numbers had disappeared off the aircraft. The allocation of the aircraft has been shown in the "Service Use" list as being"KS" after mid-1967 but in the "Unit Allocation" list the aircraft are shown as belonging to the individual squadrons until withdrawn from service. No. 120 Squadron was allotted the letters of the first third of the alphabet, No.201 the middle third and No.206 the final third.

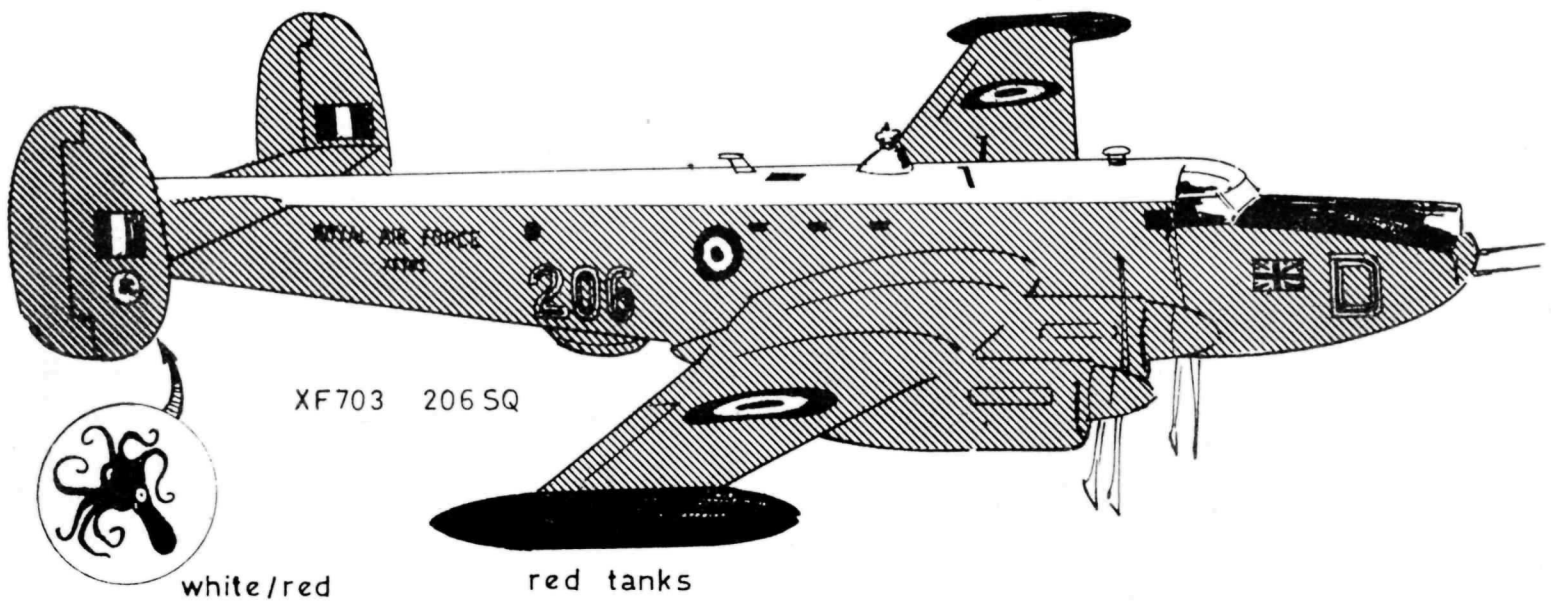
H.S.A. badge
on nose

'AVRO' badge above
fin flash

1st Ⓟ WR970

high gloss dark sea grey.
bare metal exhausts

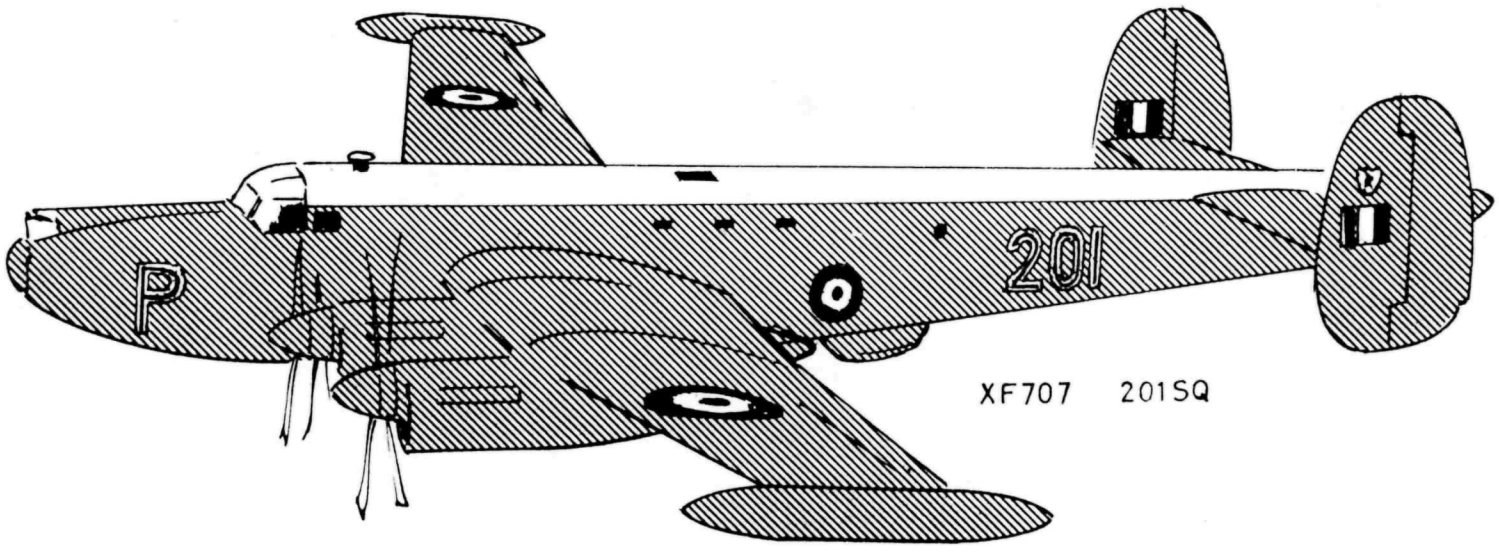




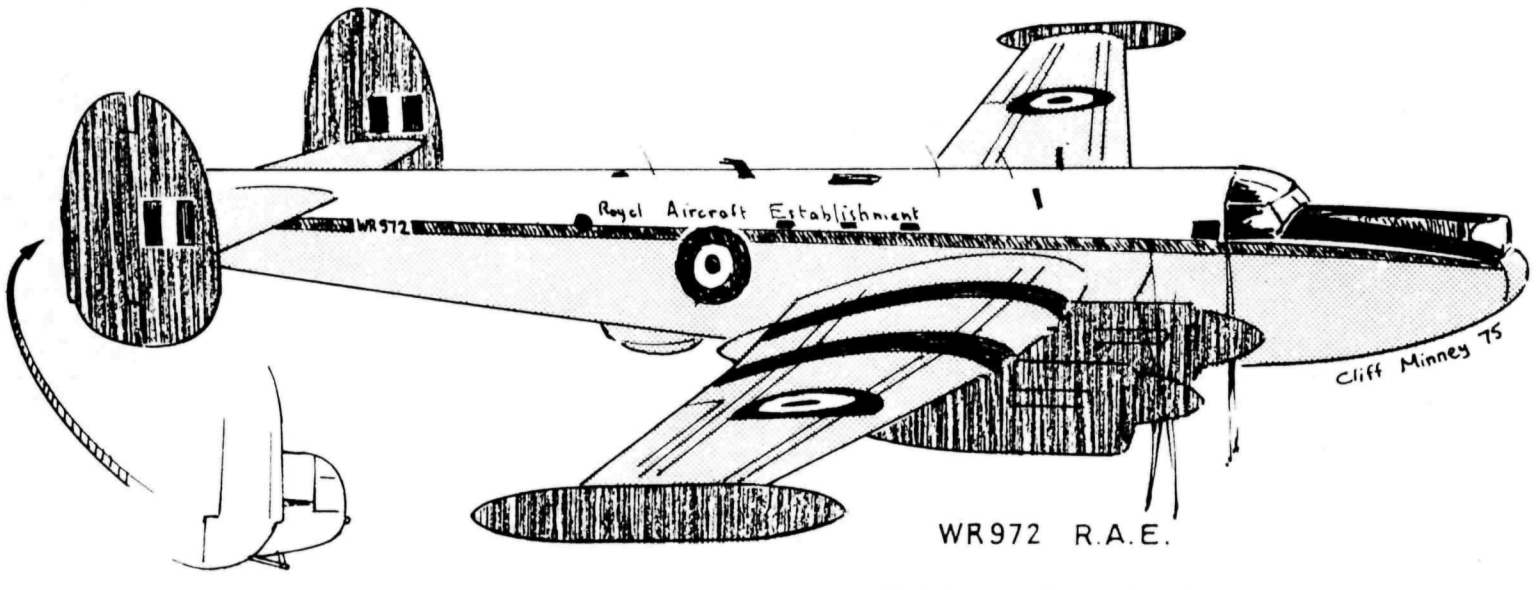
XF703 206 SQ

white/red

red tanks



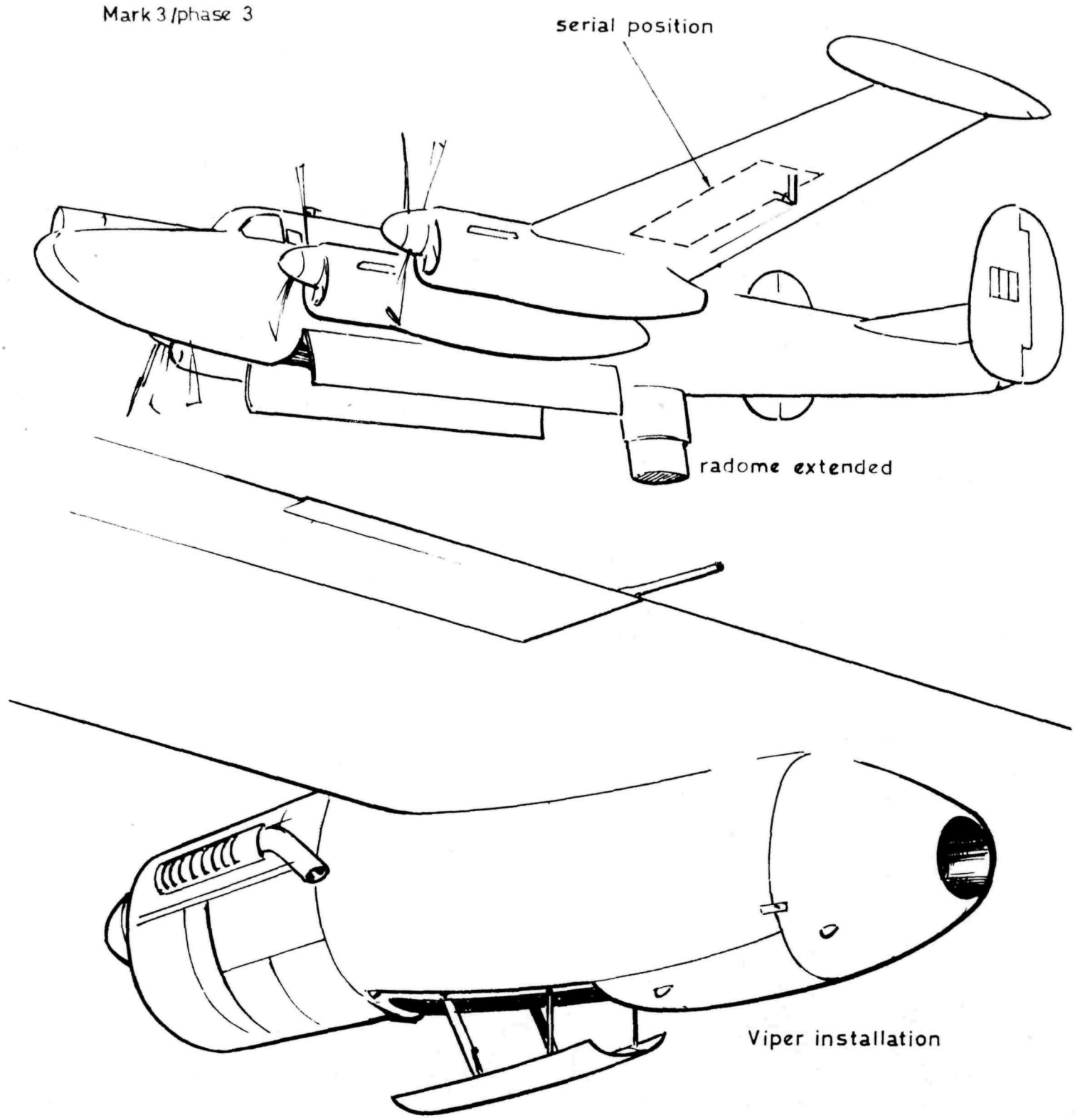
XF707 201SQ



WR972 R.A.E.

mods. for parachute
testing

light grey/blue/white



Shackleton colour slides available from the Air-Britain Colour Slide Library:

Neg.No.10925	WB837	T.4	MOTU
Neg.No.11728	WG557	MR.2C	ETPS
Neg.No.10940	WL750	MR.2C	236 OCU
Neg.No.10634	WL756	**AEW.2**	No.8 Sqn
Neg.No.7301	WL737	MR.2	No.42 Sqn
Neg.No.7309	WL740	MR.2	No.38 Sqn
Neg.No.7308	WL750	MR.2C	MOTU
Neg.No.7306	WL796	MR.2	No.204 Sqn
Neg.No.7303	WR965	MR.2	No.224 Sqn
Neg.No.10250	WR972	MR.3	A&AEE
Neg.No.11710	WR981	MR.3	No.120 Sqn
Neg.No.7304	XF707	MR.3	No.206 Sqn
Neg.No.7305	XF711	MR.3	No.201 Sqn
Neg.No.7307	XF730	MR.3	No.120 Sqn

HAWKER HENLEY III IN ROYAL AIR FORCE SERVICE

In February 1934, the Air Ministry issued Specification P.4/34 calling for a light bomber capable of dive-bombing and providing close support for ground forces. In the summer of 1935, Hawker Aircraft Ltd began construction of a prototype which was to become the Henley.

The resulting aircraft was a trim two-seat monoplane powered by a Rolls-Royce Merlin which was capable of carrying 550 lb of bombs internally with provision for eight 25-pounders under the wings. With a top speed of around 300 mph, it was obviously far superior to the Fairey Battle which was about to enter service with the RAF. A single Vickers Mk.V machine gun was fitted in the starboard wing and a Lewis was provided for the gunner/observer in the rear cockpit. As the outer wings used identical jigs to the Hurricane's, the forward firing armament could have been augmented later when operational experience had indicated the necessity.

The first prototype (K5115) made its initial flight on 10 March 1937 at Brooklands powered by a Merlin F, later replaced by a Merlin I. At first fabric covered wings were fitted but K5115 flew on 20 August 1937 with stressed skin metal wings which were to be standard on production aircraft. A second prototype (K7554) made its first flight on 26 May 1938 with a Merlin II and production aircraft began to be delivered in November.

Despite the promise shown in service trials, a change in Air Ministry policy resulted in all 200 production aircraft to come off the Gloster production line being Mark III target tugs. K7554 had been modified for this role (as the Henley II) soon after completion. The subsequent debacle involving the Battle squadrons in France in May and June 1940 inevitably drew comparisons between the two types. However, even if the Henley had been adopted for use by the light bomber squadrons, it is unlikely that more than 100 of them would have been in service in May 1940 and it would have been probable that they would have fared little better than the Battle in the face of efficient light flak, poor targetting intelligence and overwhelming enemy fighter superiority.

No.1 Anti-Aircraft Cooperation Unit began to receive Henleys in November 1938 and for the next four years its flights were spread far and wide. Henleys towed targets for AA guns training off North Cornwall, Manorbier in Pembrokeshire, Burrow Head in Galloway and along Cardigan Bay. Towing a heavy target was not helpful to engine reliability and engine failures were numerous, many resulting in the loss of the aircraft as the ranges were over the sea. No.1 AACU went through a total of 156 Henleys in its career. Other Henleys went to Armament Training Stations, Air Observer Schools, Air Gunners Schools, Bombing and Gunnery Schools and a variety of other units. On 1 October 1942, No.1 AACU split into separately-numbered flights which in turn were amalgamated into AAC squadrons on 1 December 1943.

The Henley prototype K5115 and L3302 were both used as Rolls-Royce Vulture test-beds while L3414 was fitted with a Rolls-Royce Griffon II. As Henleys lost in accidents could not be replaced, the type gradually went out of service as AAC units received Defiant target tugs and the Martinets specifically designed for the task. In April 1945, the last Henley was withdrawn from service.

Unit allocations

Units which flew Henleys comprised the following:

No.1 Anti-Aircraft Cooperation Unit at Farnborough had numerous flights equipped with Henleys from November 1939 to October 1942 which were widely dispersed at airfields convenient to anti-aircraft ranges.

No.2 Anti-Aircraft Cooperation Unit at Gosport used two Henleys while the Naval Cooperation Unit had four in October and November 1939 at Hatston.

The following Flights flew Henleys between October 1942 and November 1943

No.1489 (Sutton Bridge), No.1490 (Ayr), No.1600 and No.1601 (Weston Zoyland), Nos.1602, 1603 and 1604 (Cleave), No.1605 (Towyn), No.1606 (Bodorgan), No.1607 (Carew Cheriton), Nos.1608 and 1609 (Aberporth), Nos.1611 and 1612 (Langham, later Bircham Newton), No.1613 (West Hartlepool), No.1614 (Cark), No.1616 (Martlesham Heath and Ipswich), No.1617 (Newtonards), No.1623 (Roborough) and No.1628 (Towyn).

Anti-Aircraft Cooperation Squadrons were formed on 1 December 1943 and the following flew Henleys:

No.291 Sqn. (ex-Nos.1613, 1629 and 1634 Flights)	Hutton Cranswick
No.587 Sqn. (ex-Nos.1600, 1601 and 1625 Flights)	Weston Zoyland and Culmhead
No.595 Sqn. (ex-Nos.1607, 1608 and 1609 Flights)	Aberporth
No.631 Sqn. (ex-Nos.1605 and 1628 Flights)	Towyn
No.639 Sqn. (ex-Nos.1602, 1603 and 1604 Flights)	Cleave
No.679 Sqn. (ex-Nos.1616 and 1627 Flights)	Ipswich
No.695 Sqn. (ex-Nos.1611 and 1612 Flights)	Bircham Newton

Henleys were retired by the above squadrons in February 1944 (No.679), March 1944 (No.291), May 1944 (No.587), June 1944 (Nos.595 and 695) and February 1945 (No.631).

Armament Training Stations: No.1 ATS, Catfoss; No.3 ATS, Sutton Bridge; No.5 ATS, Penrhos; No.6 ATS, Warmwell; No.8 ATS, Evanton; No.9 ATS Stormy Down;

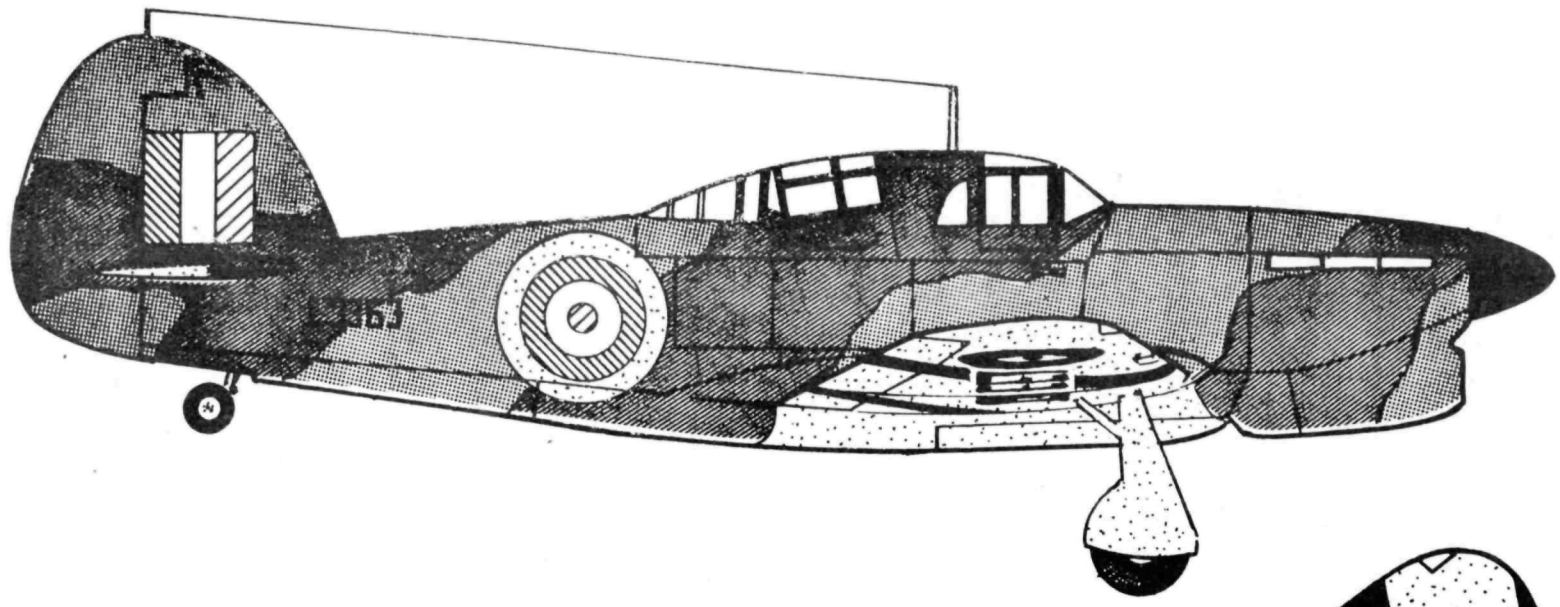
Air Observers Schools: No.1 AOS, North Coates; No.5 AOS, Jurby; No.7 AOS, Stormy Down; No.8 AOS, Evanton; No.10 AOS, Dumfries.

Bombing and Gunnery Schools: No.3 B&GS, Aldergrove; No.4 B&GS, West Freugh; No.5 B&GS, Jurby; No.7 B&GS, Stormy Down; No.8 B&GS, Evanton; No.9 B&GS, Penrhos; No.10 B&GS, Dumfries.
Air Gunners School: No.10 AGS, Castle Kennedy and Barrow.

Other units flying Henleys in small numbers were:

No.56 Operational Training Unit, Sutton Bridge (one only);
No.1 Air Armament School, Manby (September 1939 to October 1941);
No.10 (Observers) Advanced Flying Unit, Dumfries (May 1942 to January 1944);
Gunnery Research Unit, Exeter (two only in 1941/42);
No.711 Squadron, Fleet Air Arm, Hatston (two only);
Nos.264 and 266 Squadrons, Sutton Bridge;
No.14 Armament Practice Station, Ayr;
No.16 Armament Practice Station, Hutton Cranswick.

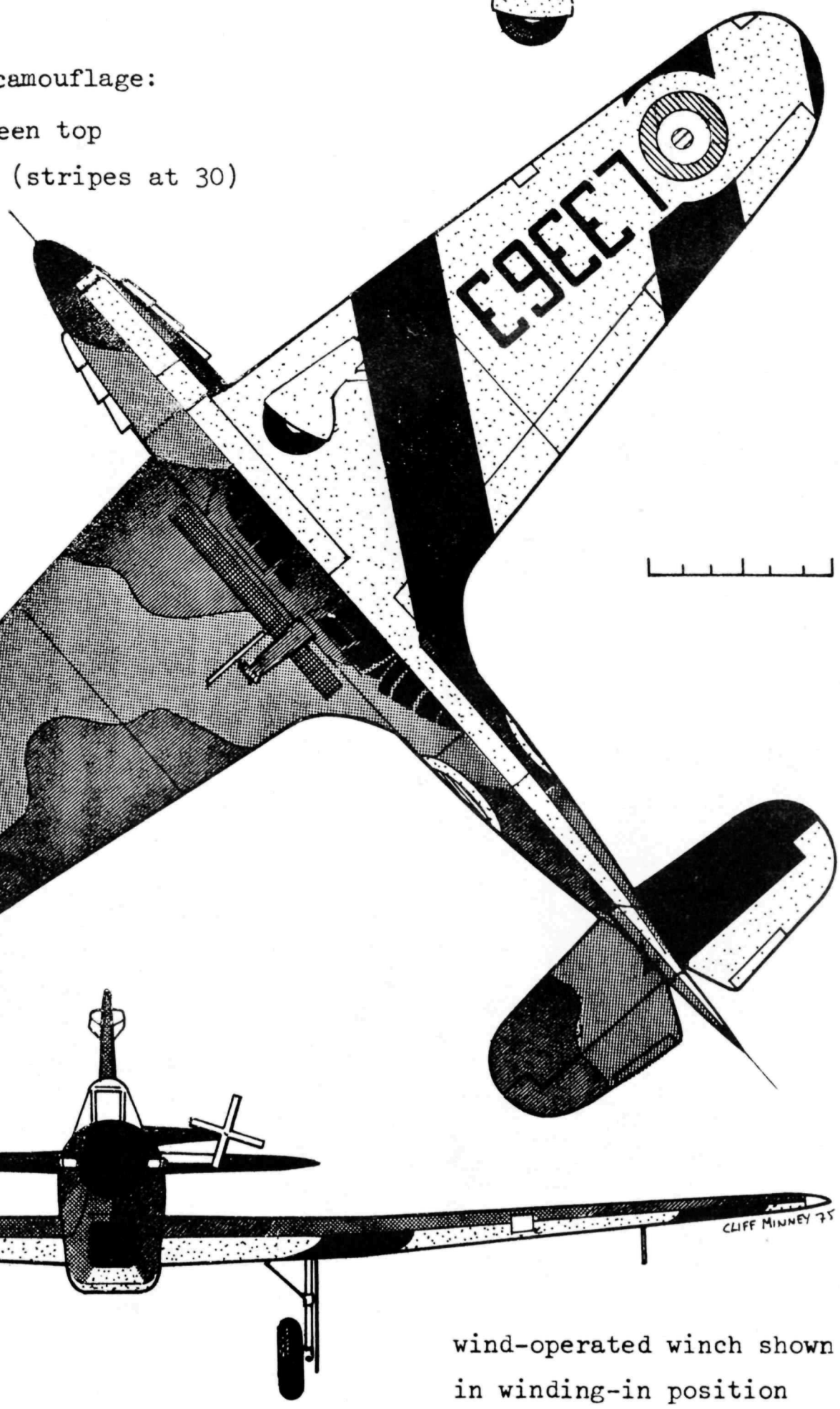
Hawker Henley III

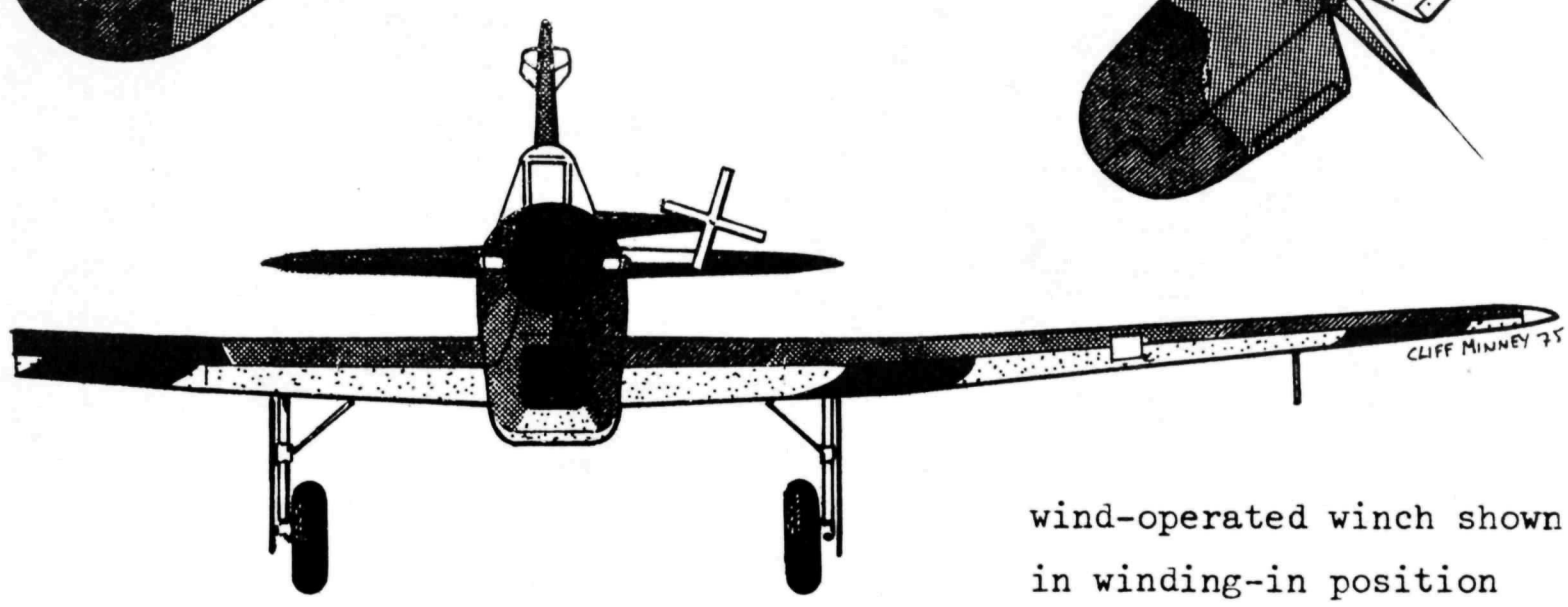


L3363 in standard camouflage:

dark earth/dark green top

yellow/black under (stripes at 30)

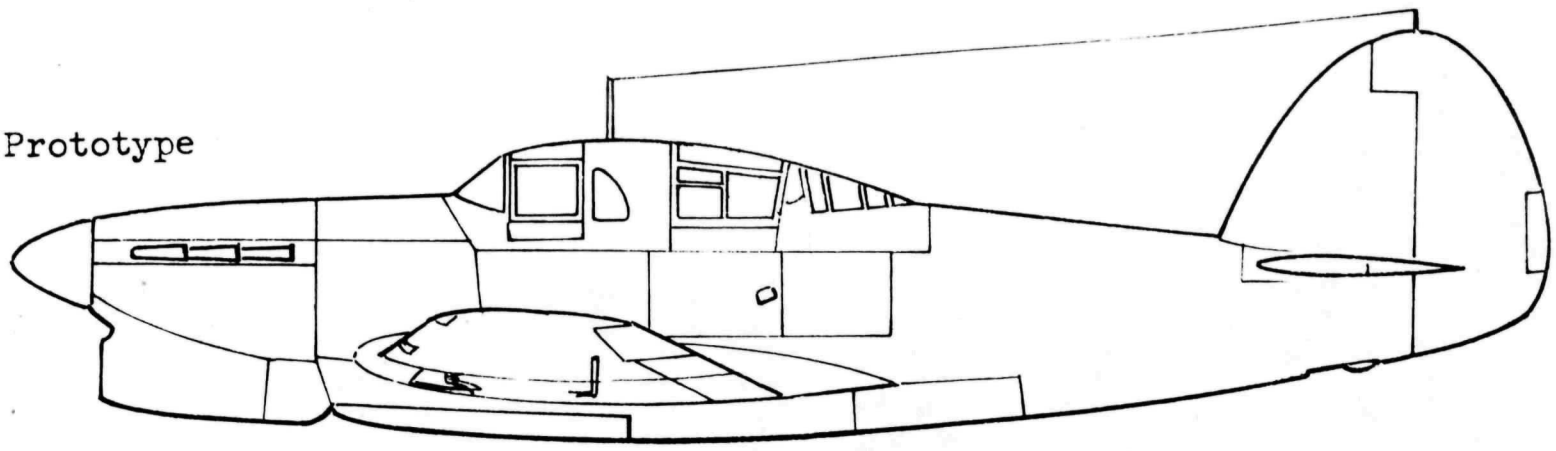


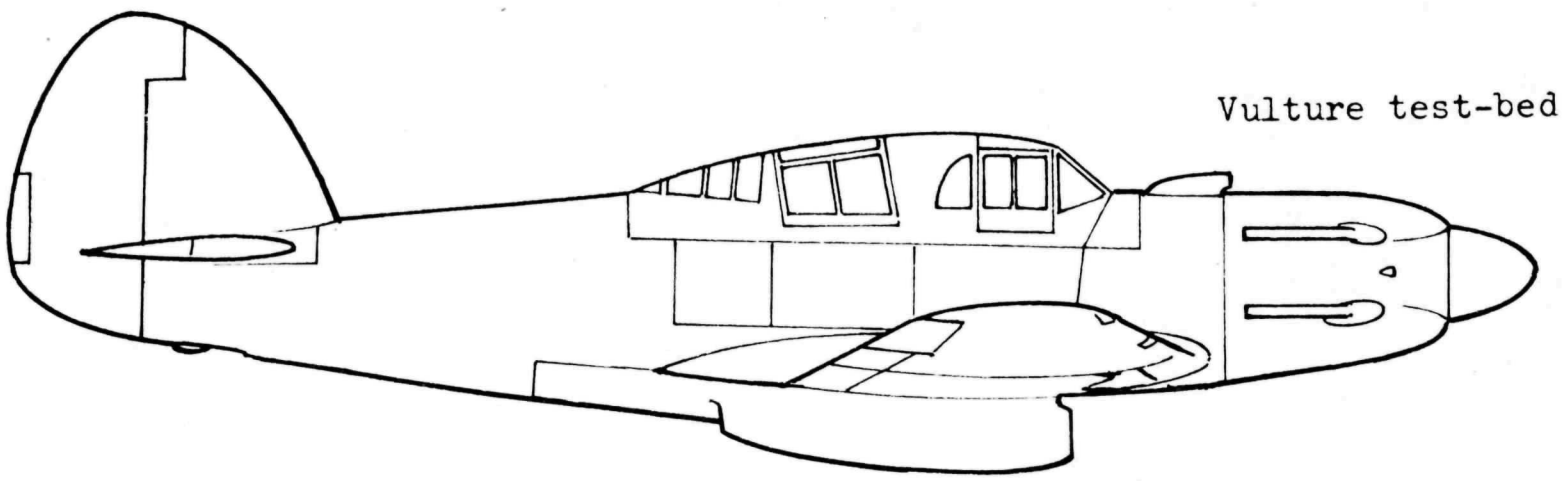


wind-operated winch shown

in winding-in position

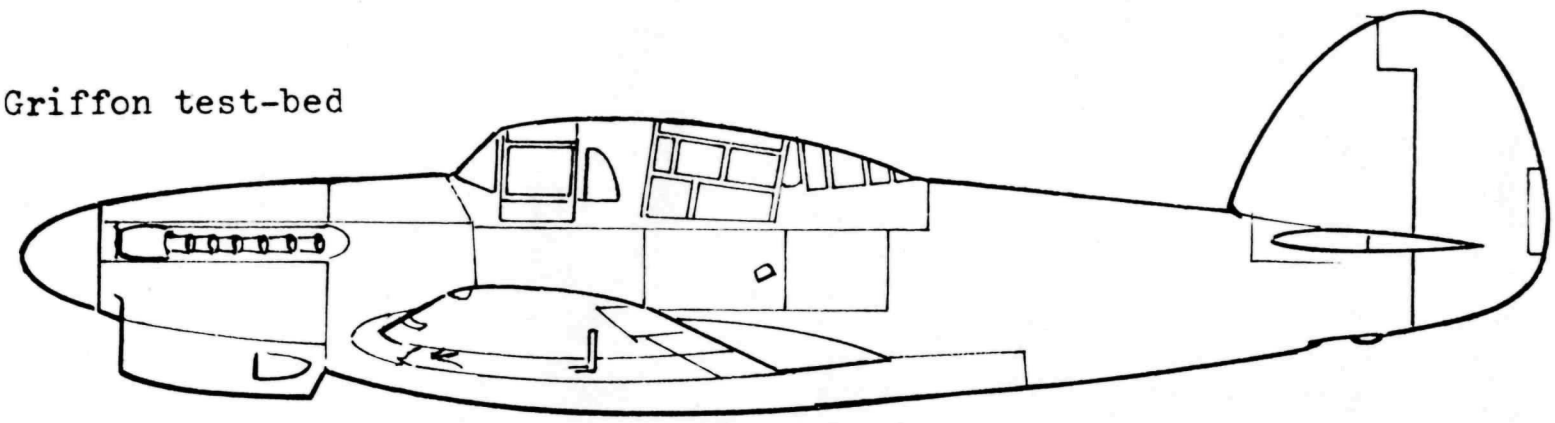
Prototype

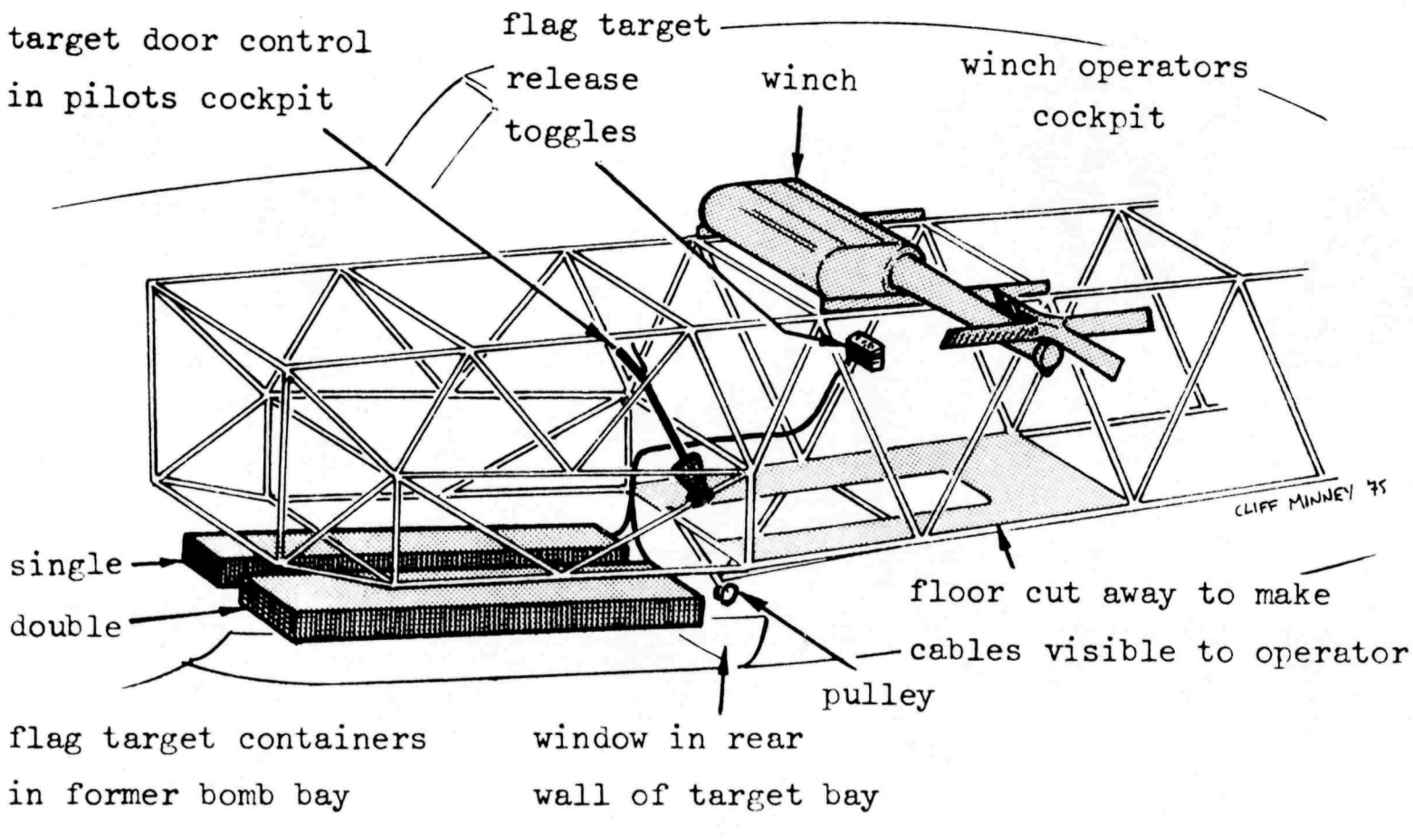




Vulture test-bed

Griffon test-bed





BLACKBURN BOTHA IN ROYAL AIR FORCE SERVICE

In September 1935, the Air Ministry issued Specification M.15/35 calling for a twin-engined reconnaissance-bomber intended as a replacement for the Vickers Vildebeests then serving as Coastal Area's land-based bomber-reconnaissance element. As the torpedo was regarded as the primary anti-shipping weapon in coastal defence units, the specification required provision for the carriage of an 18 in. torpedo (Mk.XII or XIV). The three-man crew was also standard in Vildbeests but an amendment to the specification increased this to four, requiring enlargement of the fuselage to Specification 10/36.

Two contenders were accepted for production, the Bristol Type 152 Beaufort and the Blackburn B-26 Botha. The rearmament programme urgently required modern aircraft and both types were ordered into production off the drawing board. A shortfall in the production of Bristol Taurus engines resulted, however, in the Beaufort receiving all the Taurus engines whilethe Botha was left with the Bristol Perseus which gave an output of 850 hp compared to the 1130 hp of the Taurus. While the Perseus had been considered adequate for the original design, the enlargement of the fuselage to accommodate an extra crew member resulted in the aircraft being underpowered in its production form. Suggestions for the installation of Hercules engines (as the Botha II) were rejected as these were all required for Beaufighters and Stirlings.

Contracts were placed for 442 Bothas in December 1936 and the first production (and prototype) Botha flew on 28 December 1938 at Brough. Two production lines were set up, one at the main factory at Brough on the north bank of the Humber and the other at a new factory at Dumbarton on the Clyde in association with Wm.Denny & Bros.Ltd and adjacent to their shipyard.

The Botha appeared to be a well-designed and compact aircraft, especially when seen alongside a Vildebeest. With operational load, however, the lower-power Perseus engines proved to be the Achilles' heel of the type. Apart from this, airframe design was excellent by the standards of the time.

All four crew positions were connected and navigator had access from the cabin amidships to the nose bomb-aiming position while the rear gunner was provided with a twin-gun turret. The pilot had an excellent forward view and controlled a fixed Vickers 0.303 in. machine-gun firing forward. In place of a torpedo, there was provision for 1,000 lb. of bombs.

Initial flying trials resulted in an increase in the area of the tail-plane and fitment of horn-balanced elevators on the second aircraft L6105 which were retrofitted to L6104. L6106 was delivered to the Central Flying School for the compilation of handling manuals on the day Britain declared war.

The Torpedo Development Unit at Gosport received L6107 for torpedo trials later in September 1939 and aircraft began to come off the Dumbarton production line in October and were test-flown at Abbotsinch. L6143 was allocated to tropical trials at Khartoum but these were never Undertaken. L6155 received uprated Perseus XAs which were fitted to production aircraft. Bulged observation windows were fitted aft of the cockpit to give better visibility from the cabin.

No.1 Operational Training Unit at Silloth in Cumberland began to receive its establishment of 25 Bothas to supplement Hudsons and Ansons in June 1940 and later that month No.608 (North Riding) Squadron at Thornaby, near Middlesbrough, began to convert from Ansons as crews passed through Silloth. The first operational patrols began on 10 August 1940 but torpedo-bombing was allocated to the higher-performance Beauforts so No.608's role was that of anti-submarine patrols and shipping reconnaissance. One Botha (L6165) was lost on a night training flight on 31 August while L6209 was damaged beyond repair in a forced landing on 24 August 1940. Operational patrols were carried out without loss.

With Beauforts and Hudsons becoming available in increasing numbers, the Botha was relegated to training duties and No.608 ended operational flying on the type on 6 November 1940 after completing 308 sorties, reverting to Ansons. Re-equipment of No.502 Squadron was cancelled. No.3 School of General Reconnaissance at Squire's Gate began to receive Bothas in numbers in November and various other schools followed with the result that the Irish Sea area became saturated with Bothas on training flights. In consequence it also became the last resting place of a large number of wrecks, as did the surrounding hills. Engine failure was a common occurrence, aggravated by sand ingestion at coastal airfields.

Since there was no production of Bothas to replace wastage after May 1942, re-equipment of the schools with Ansons began and by August 1943 the Botha was declared obsolete. The exception was No.11 Radio School at Hooton Park, Cheshire, which continued to fly Bothas until September 1944. A few lingered on at storage units until struck off charge. A number had remained in store from delivery until disposal but the majority served with units, either as initial equipment or to replace damaged aircraft which were then returned to maintenance units after repair for storage in their turn.

Despite its short operational life, the Botha was typical of many types which performed adequately in day-to-day service on tasks which called for considerably more flying hours than normally flown in operational units. If the accident rate seemed high, it was no more than average in training units where partly-trained crews flew aircraft day after day from dawn to dusk, and often at night as well. The mountains of North Wales, the Isle of Man, Cumberland and Galloway were littered with the wrecks of Ansons, Hudsons and other types placed there by trainee navigators who thought they were somewhere else. The Botha was no exception.

Unit Allocations

No.608 Squadron at Thornaby, June 1940 to November 1940
No.502 Squadron at Aldergrove, August 1940 to November 1940 (non-operational)

No.1 Operational Training Unit, Silloth, June 1940 to May 1941

No.2 Air Observers School, Millom, July 1941 to February 1942
No.4 Air Observers School, West Freugh, formerly No.4 Bombing and Gunnery School, August 1941 to April 1942
No.10 Air Observers School, Dumfries, later No.10 (Observers) Advanced Flying Unit, October 1941 to July 1942

No.3 Air Observers Navigation School, Halfpenny Green, formerly Bobbington, April 1941 to July 1941
No.4 Air Observers Navigation School, Ansty, August 1941 to July 1942

No.3 Air Gunners School, Castle Kennedy and Mona, July 1942 to May 1943
No.4 Air Gunners School, Morpeth, April 1942 to July 1943
No.8 Air Gunners School, Evanton, February 1942 to August 1943

No.3 School of General Reconnaissance, Squire's Gate, November 1940 to December 1942

No.2 Electrical and Wireless School, Yatesbury, October 1940 to September 1941

No.1 Radio School, Cranwell, July 1941 to February 1942
No.3 Radio School, Prestwick, March 1941 to December 1942
No.11 Radio School, Hooton Park, December 1942 to September 1944
No.3 RDF School, Prestwick, September 1942 to August 1943

No.1 (Observers) Advanced Flying Unit, Wigtown, July 1942 to July 1943
No.3 (Pilots) Advanced Flying Unit, South Cerney, April 1942 to July 1942
No.6 (Pilots) Advanced Flying Unit, Little Rissington, June 1942 to July 1942

No.2 Bombing & Gunnery School, Millom, January 1941 to February 1942
No.4 Bombing & Gunnery School, West Freugh, May 1941 to August 1941
No.8 Bombing & Gunnery School, Evanton, April 1941 to February 1942

Torpedo Development Unit, Gosport, occasional use
Torpedo Training Unit, Abbotsinch, April 1942 to September 1942

A few Bothas were also allocated to other units at intervals and in small numbers. Units concerned were:

Central Flying School, Upavon
Aeroplane & Armament Experimental Establishment, Martlesham Heath
Royal Aircraft Establishment, Farnborough
Pilotless Aircraft Unit, St.Athan
No.3 Flying Training School, South Cerney
No.24 Squadron, Hendon
No.301 Squadron, Hemswell
No.304 Squadron, Davidstowe Moor
Ansty, for No.4 AONS

Production

Contract No.563935/36	242 aircraft from Brough	L6104-L6345
Contract No.583994/36	200 aircraft from Dumbarton	L6347-L6546
Contract No.69254/40	138 aircraft from Brough	W5017-W5056 W5065-W5114 W5118-W5157 W5162-W5169

The above aircraft are listed in the tables on the following pages. For clarity, the intervening Miles Peregrine has also been shown.

Deliveries

Month	From Brough	From Dumbarton	Total	SOC	Accidents	In Service
October 1939	4	1	5			5
November 1939	2	1	3			8
December 1939	6	2	8		1	15
January 1940	4	1	5			20
February 1940	3	4	7		1	26
March 1940	10	7	17		1	42
April 1940	19	3	22		1	63
May 1940	16	4	20	1	2	80
June 1940	32	26	58		1	137
July 1940	22	23	45		2	180
August 1940	31	23	54		4	230
September 1940	20	13	33	1		262
October 1940	12	19	31			293
November 1940	15	10	25		1	317
December 1940	15	8	23			340
January 1941	9	13	22	2	2	358
February 1941	11	17	28			386
March 1941	16	8	24	1	1	408
April 1941	10	9	19		4	423
May 1941	9	3	12		6	429
June 1941	6	5	11		5	435
July 1941					3	432
August 1941	18		18		7	443
September 1941	9		9		3	449
October 1941	8		8	1	8	448
November 1941	10		10	1	6	451
December 1941	9		9	1	3	456
January 1942	11		11	1	3	463
February 1942	10		10		2	471
March 1942	9		9		3	477
April 1942	12		12	1	2	486
May 1942	12		12		4	494
June 1942					2	492
July 1942					7	485
August 1942				1	4	480
September 1942				1	1	478
October 1942				7	4	467
November 1942				1	3	463
December 1942				1	1	461
January 1943				3	2	456
February 1943				1	3	452
March 1943				28	6	418
April 1943				12	4	402
May 1943				19	3	380
June 1943				41	3	336
July 1943				145		191
August 1943				46	1	144
September 1943				32		112

The Botha was declared obsolete in August 1943 and those still in service at the end of September 1943 were used to maintain the establishment of No.11 Radio School.
The number shown as "in service" included stored aircraft and those under repair.

138 Blackburn Botha Is delivered between March 1941 and June 1942

W5017	8 BGS	SOC 22.3.43
W5018	8 BGS	SOC 31.3.43
W5019	8 BGS/8 AGS	Hit trees on take-off, Evanton 14.1.42
W5020	4 BGS/3 AGS/8 AGS/ 4 AOS/8 AGS	SOC 9.8.43
W5021	4 BGS/3 AGS	Crashed in forced landing, Sandhead, Wigtownshire 1.10.42
W5022	4 BGS/3 AGS	SOC 16.6.43
W5023	3 AONS/10 AOS/10 OAFU	Crashed on take-off, Dumfries 17.6.43
W5024	4 BGS/4 AOS/3 AGS	Crashed on landing, Mona 28.2.43
W5025	3 AONS/10 AOS	SOC 28.7.43
W5026	8 BGS/10 AOS	SOC 28.7.43
W5027	8 BGS	Crashed on take-off, Evanton 25.5.41
W5028	8 BGS/10 AOS	SOC 12.8.43
W5029	4 BGS/3 AGS	Crashed on landing, Mona 15.2.43
W5030	4 BGS/4 AOS/3 AGS/1 OAFU	SOC 31.8.43
W5031	3 AONS	Crashed in forced landing soon after take-off from Halfpenny Green 30.6.41
W5032	3 AONS/10 AOS	SOC 19.6.43
W5033	3 AONS/10 AOS	SOC 28.7.43
W5034	3 AONS/10 AOS/4 AGS	SOC 28.7.43
W5035	3 AONS/10 AOS/1 OAFU	SOC 22.7.43
W5036	3 AONS/10 AOS	SOC 12.8.43
W5037	3 AONS/10 AOS	SOC 12.8.43
W5038	2 BGS	SOC 4.7.43
W5039	2 BGS/4 AGS	SOC 24.9.43
W5040	3 AONS/10 AOS	SOC 28.7.43
W5041	3 AONS/10 AOS	SOC 28.7.43
W5042	3 AONS/10 AOS/10 OAFU	Ditched off Port Mary, Kirkcudbright, 30.7.42
W5043	4 AGS	SOC 14.8.43
W5044	6 PAFU/4 AGS	Hit Anson LV162 while forcelanding at Morpeth 17.7.42
W5045	2 BGS/8 AGS	Crashed on landing, Evanton 15.12.42
W5046	2 BGS/11 RS	SOC 14.5.43
W5047	4 AOS	Overshot landing at West Freugh 23.11.41
W5048	4 AOS/3 AGS/4 AOS/8 AGS	SOC 9.8.43
W5049	4 AONS/4 AOS/3 AGS	SOC 2.5.43
W5050	4 AOS/8 AGS	SOC 19.8.43
W5051	-	Crashed after night take-off, 3 miles from Wigtown, Cumberland 19.5.41
W5052	4 AGS	SOC 30.9.43
W5053	2 AOS	Crashed on take-off, Millom 28.11.41
W5054	2 AOS/8 AGS	SOC 31.3.43
W5055	4 AOS/8 AGS	SOC 14.8.44
W5056	4 AOS/3 AGS	SOC 14.5.43
W5065	3 SGR	SOC 28.7.43
W5066	4 AGS	SOC 25.8.43
W5067	4 AOS/3 AGS	SOC 22.3.43
W5068	3 SGR	SOC 28.7.43
W5069	8 AGS	SOC 24.9.43
W5070	8 AGS	SOC 9.8.43
W5071	3 RDFS	SOC 8.4.43
W5072	3 RS/11 RS	

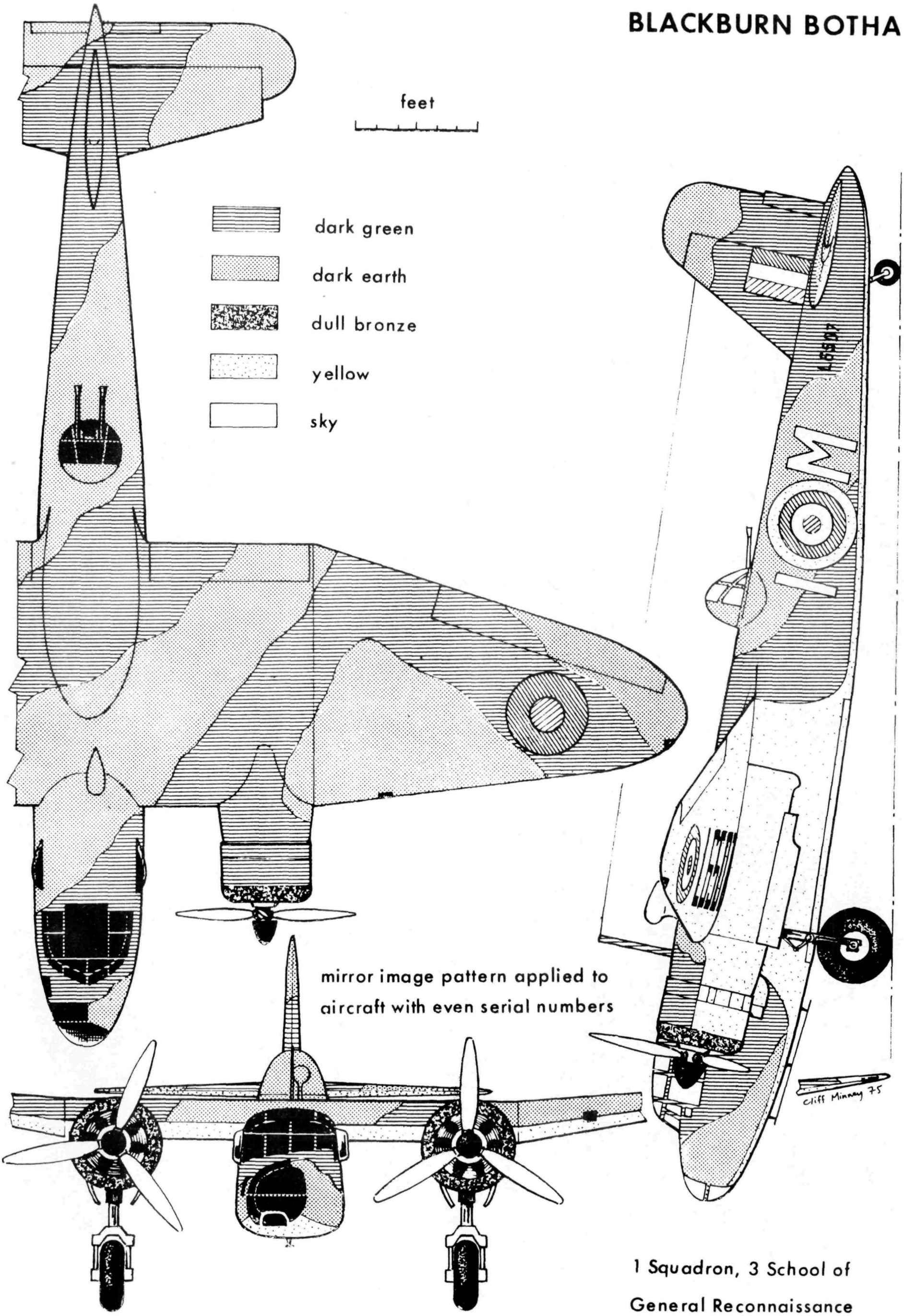
W5073	3 RS/11 RS	SOC 16.8.44
W5074	3 RS/11 RS	SOC 11.1.43
W5075	-	
W5076	4 AOS/3 AGS	SOC 30.6.43
W5077	3 SGR	SOC 28.7.43
W5078	8 AGS	SOC 23.6.43
W5079	-	SOC 14.8.44
W5080	3 SGR	SOC 22.3.43
W5081	2 AOS/8 AGS	Crashed in forced landing, Dalcross 21.5.42
W5082	10 AOS	SOC 31.3.44
W5083	-	SOC 28.7.43
W5084	8 AGS	SOC 9.8.43
W5085	8 AGS	SOC 24.9.43
W5086	-	SOC 28.9.43
W5087	10 AOS	SOC 28.7.43
W5088	-	Crashed on Llanddwyn Island, Anglesey 30.5.42
W5089	2 AOS/4 AGS	SOC 25.8.43
W5090	4 AOS/3 AGS	SOC 2.5.43
W5091	4 AOS	SOC 29.12.44
W5092	3 SGR	SOC 28.7.43
W5093	4 AGS	SOC 25.8.43
W5094	TTU	SOC 31.1.44
W5095	-	SOC 28.7.43
W5096	4 AGS	SOC 24.9.43
W5097	3 SGR	SOC 28.7.43
W5098	TTU/3 AGS	SOC 16.6.43
W5099	TTU	SOC 28.7.43
W5100	TTU	SOC 28.7.43
W5101	TTU/3 RS	SOC 6.6.43
W5102	-	SOC 29.12.44
W5103	6 FPP	Crashed 5 miles NE of Glossop, Derby shire 10.12.41
W5104	TTU	SOC 28.7.43
W5105	TTU	SOC 14.8.44
W5106	3 SGR	SOC 28.7.43
W5107	4 AGS	SOC 14.8.43
W5108	3 SGR	SOC 28.7.43
W5109	8 AGS	SOC 26.6.43
W5110	8 AGS	SOC 14.10.43
W5111	8 AGS	SOC 3.8.43
W5112	4 AGS	SOC 30.9.43
W5113	3 RS/11 RS	SOC 17.5.44
W5114	3 RDFS	SOC 16.5.44
W5118	3 RS/11 RS	SOC 20.9.44
W5119	4 AGS	SOC 24.9.43
W5120	4 AGS	SOC 25.8.43
W5121	4 AGS	SOC 14.8.44
W5122	3 RS/11 RS	Bellylanded at Walney Island 9.2.43
W5123	4 AGS	SOC 14.8.43
W5124	4 AGS	SOC 7.8.43
W5125	3 RS	SOC 22.3.43

W5126	3 RS	SOC 8.4.43
W5127	11 RS	SOC 16.8.44
W5128	-	SOC 15.3.44
W5129	3 RS/11 RS	SOC 7.7.44
W5130	3 RS/11 RS	SOC 22.3.43
W5131	6 PAFU/4 AGS	SOC 30.9.43
W5132	3 RS/11 RS	Crashed in forced landing, Hooton Park 15.9.43; to 4184M
W5133	4 AGS	SOC 25.8.43
W5134	-	Crashed in forced landing, South Clarewood, 11.4.42
W5135	3 SGR	SOC 22.3.43
W5136	3 SGR/4 AOS/8 AGS	SOC 10.10.43
W5137	4 AGS	Collided in circuit with W5154 and crashed, Morpeth, 29.3.43
W5138	4 AGS	SOC 14.8.47
W5139	4 AGS	Collided on take-off with L6339, Morpeth 16.11.42
W5140	4 AGS	Crashed on landing, Morpeth 17.3.43
W5141	3 SGR	SOC 15.5.43
W5142	3 SGR	Hit mountain in cloud, Llanllychid, Bethesda, Caernarvon 20.7.42
W5143	TTU	SOC 28.7.43
W5144	3 SGR	SOC 30.5.43
W5145	4 AGS	SOC 17.10.43
W5146	4 AGS	SOC 28.7.43
W5147	4 AGS	SOC 25.8.43
W5148	4 AGS	SOC 7.8.43
W5149	4 AGS	SOC 25.8.43
W5150	4 AGS	SOC 25.8.43
W5151	4 AGS	SOC 30.9.43
W5152	4 AGS	SOC 30.9.43
W5153	4 AGS	SOC 27.8.43
W5154	4 AGS	Collided in circuit with W5137 and crashed, Morpeth 29.3.43
W5155	4 AGS	Collided with Lysander T1506 and crashed, Boulmer, 18.8.42
W5156	4 AGS	Crashed on approach, Morpeth 22.6.43
W5157	3 PAFU/1 OAFU	SOC 22.7.43
W5162	3 PAFU/1 OAFU	SOC 12.8.43
W5163	3 RS/11 RS	SOC 16.8.44
W5164	6 PAFU/4 AGS	Hit tree on take-off, Morpeth 8.3.43
W5165	6 PAFU/4 AGS	SOC 24.9.43
W5166	6 PAFU/4 AGS	SOC 24.9.43
W5167	4 AGS	SOC 14.8.43
W5168	4 AGS	SOC 25.8.43
W5169	11 RS	SOC 16.8.44
W5170 to W7409	Cancelled	
W9396 to W9975	Cancelled	
X1000 to X1029	Cancelled	

BOTHA

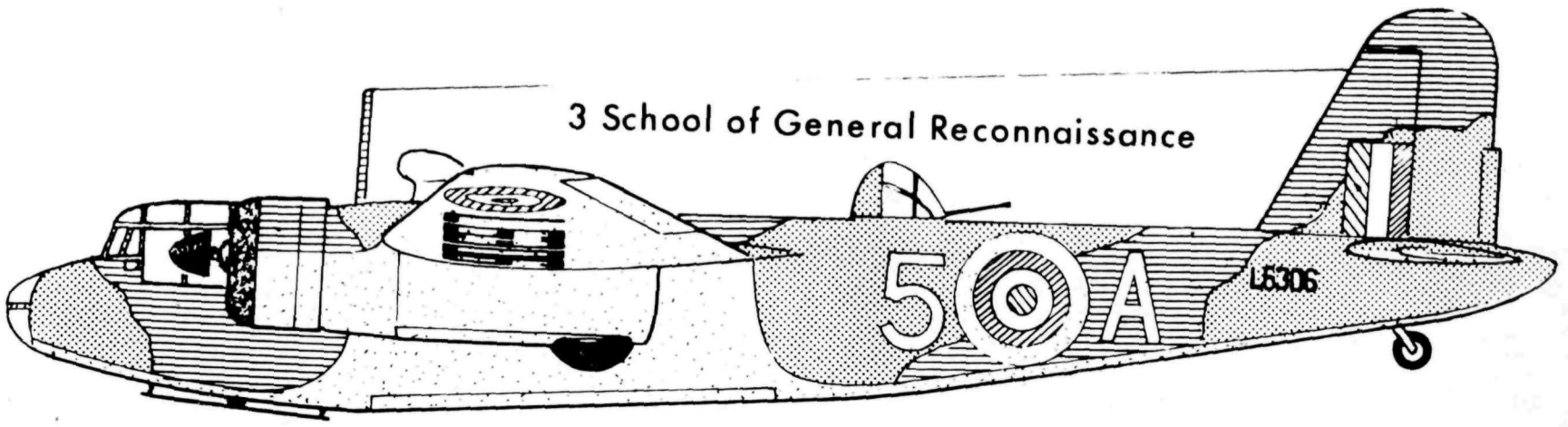
LOCATIONS

BLACKBURN BOTHA

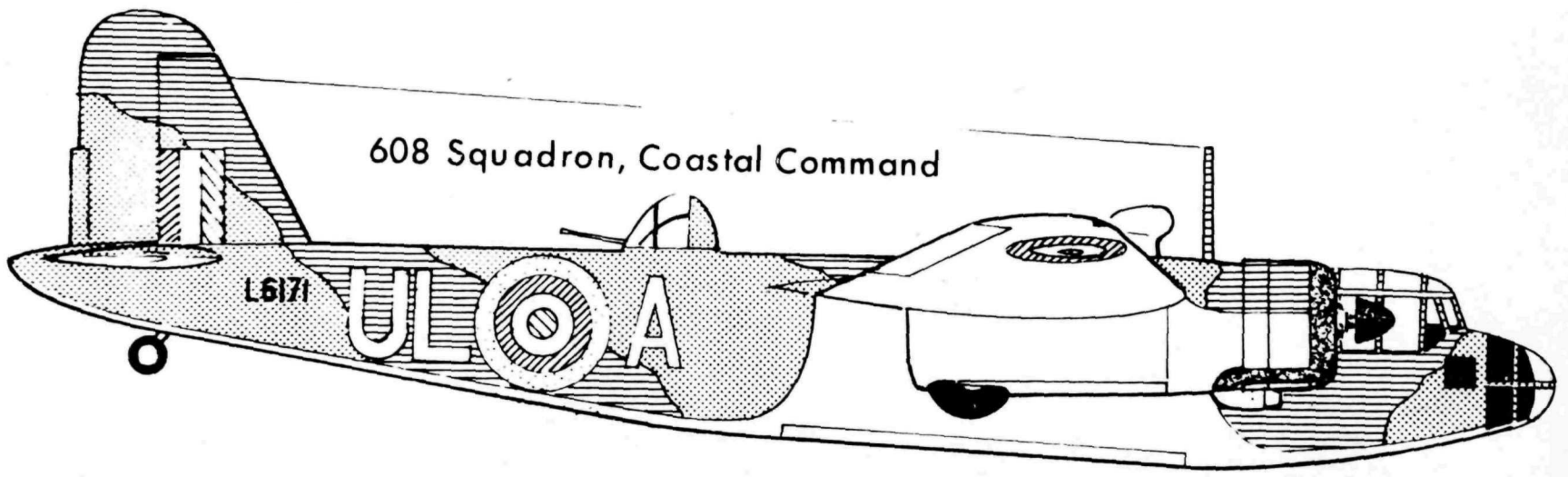


1 Squadron, 3 School of
General Reconnaissance

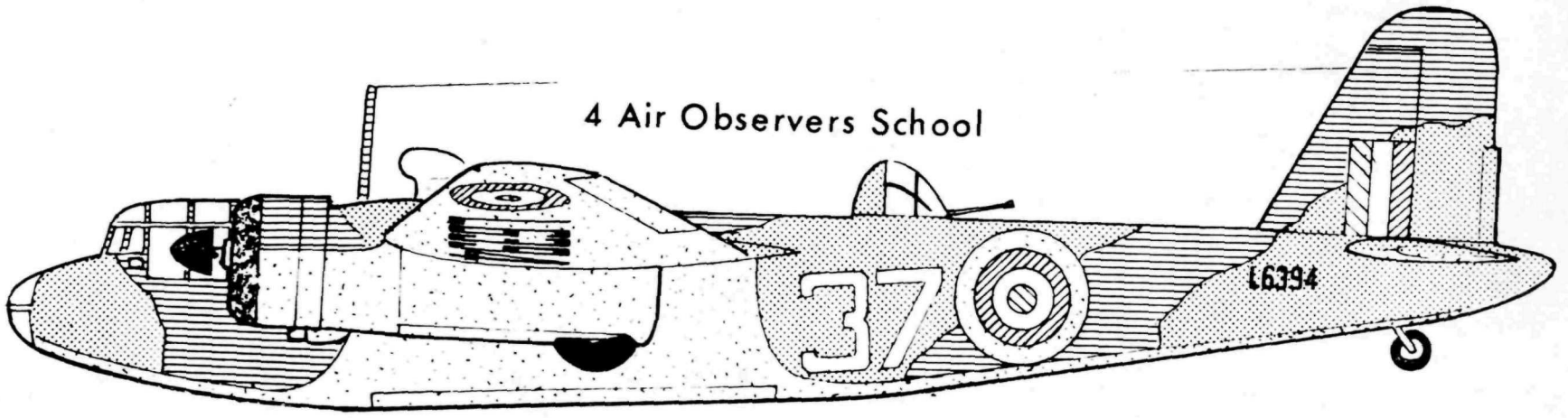
3 School of General Reconnaissance



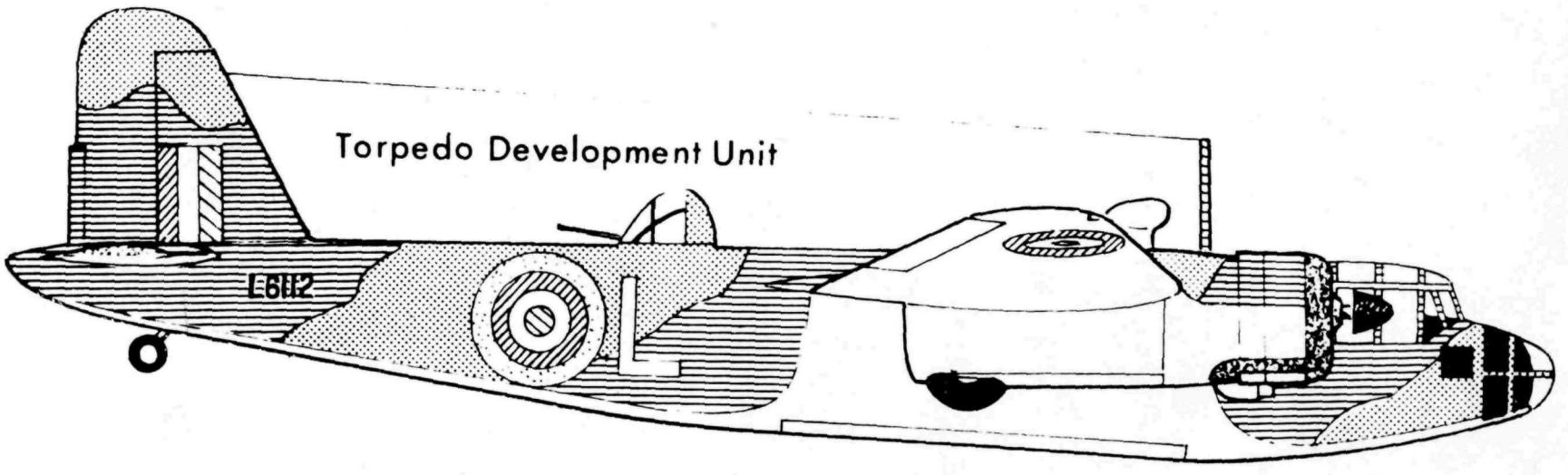
608 Squadron, Coastal Command



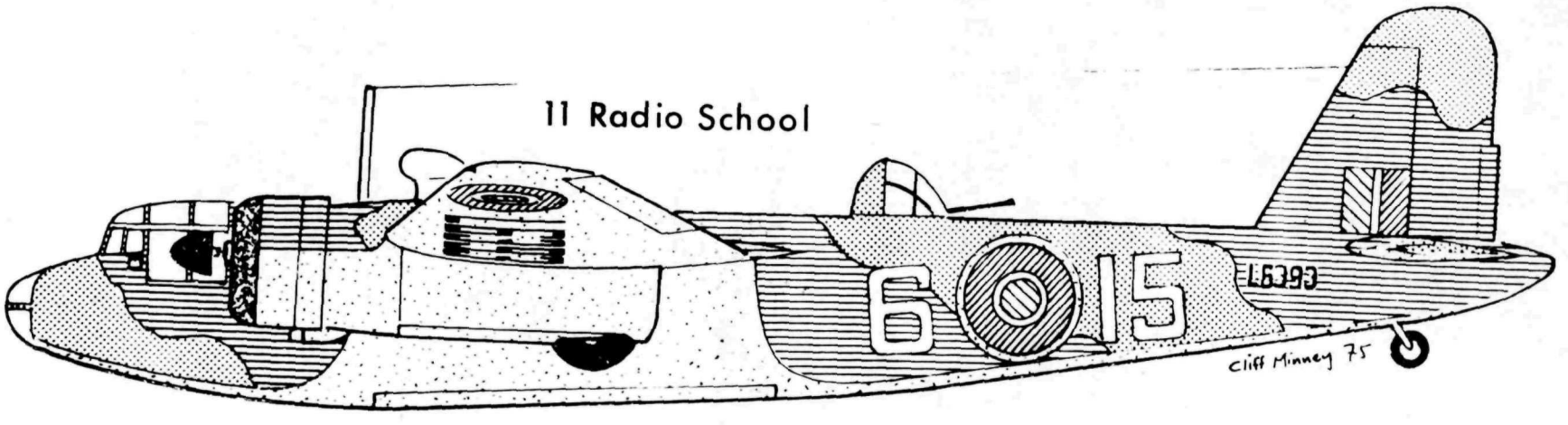
4 Air Observers School



Torpedo Development Unit



11 Radio School



Royal Air Force Glider Training Schools, 1940-1947

The success of German glider-borne troops in limited operations during the invasion of the Low Countries in May 1940 focused attention on the lack of similar units in the British forces and a few months later plans were drawn up to form airborne forces in the British Army. In the complete absence of any suitable glider, training was initially concentrated on parachute troops but on 19th September 1940, the Glider Training Squadron was formed to co-ordinate glider training at the Central Landing Establishment, Ringway. Later expansion was catered for by several Glider Training Schools and for advanced training glider operational training units were formed. The following are brief histories of these units with examples of the aircraft flown.

The Glider Training Squadron

Formed at Ringway with Tiger Moths and Kirby Kites, the squadron moved to Thame on 28th December 1940 with five Tiger Moths. In preparation for the delivery of Hotspur training gliders, the squadron was allocated Hectors and the first arrived on 21st February 1941. On 6th April 1941, the first Hotspur was received (BV125) and was test flown on the 9th. On 26th April 1941, a demonstration was arranged for the Prime Minister which involved five Kites and the Hotspur. In November 1941, a full-scale training programme for 400 glider pilots was begun which involved a much larger establishment and the squadron was divided to become Nos.1 and 2 Glider Training Schools on 1st December 1941.

No.1 Glider Training School

Formed from part of the Glider Training Squadron at Thame, No.1 GTS was transferred from Army Co-operation to Flying Training Command on 22nd December 1941. Kingston Bagpuize airfield was taken into use as a satellite field on 9th March 1942 but was relinquished on 19th July 1942 when the detachment moved to Croughton. Its aircraft returned to Thame to await a complete move of the school to Croughton and this took place between 1st and 3rd August 1942 when 14 Hectors and 18 Hotspurs were transferred. Later in the month, Master IIs began to arrive. The school closed on 23rd March 1943 and all personnel were transferred to No.20 (Pilots) Advanced Flying Unit.

No.1 GTS resumed when No.20(P)AFU reverted to its old title on 1st November 1944. By now, Master IIs were the standard tugs at Kidlington where 1 GTS remained until the end of the war. On 1st June 1945, it became a detachment of No.21 Heavy Glider Conversion Unit at Brize Norton and was detached to Gaydon but lost this connection on 1st November 1945. The school was disbanded on 19th June 1946.

Aircraft: Hind:K5421, K5515; Hector: K8097, K8111, K8119; Oxford: BF974; Tiger Moth: T5417, N9197, N9198; Master II: DL484, DM453, EM332

No.2 Glider Training School

No.2 GTS's detachment from the Glider Training Squadron moved to Weston-on-the-Green between 8th and 19th December 1941 with Hectors, Hinds, Tiger Moths and 4 Hotspurs. Next month, an Audax was received for trials and the establishment settled as 16 Audaxes which eventually replaced Hectors in March. In June, Master IIs began to arrive and on 23rd March 1943, No.2 GTS was absorbed into No.20(P)AFU.

Aircraft: Hind: K5450, K7380, K7466: Hector: K8108, K8111, K8140; Audax: K8324, K8327; Tiger Moth: T5628

No.3 Glider Training School

No.3 GTS was formed at Stoke Orchard on 21st July 1942 with Master IIs, Oxfords and Hotspurs. By the end of the following month, it had acquired 16 out of its planned 34 tugs and 13 out of 46 Hotspurs. As training expanded, Northleach was taken over as a reserve landing ground on 2nd November 1942. Detachments were sent to Aldermaston in February-March 1943, Wanborough , December 1943, Zeals, October-December 1944 and Culmhead, December 1944 to July 1945.

On 16th January 1945, the school was moved to Exeter, Culmhead being used as a RLG. Some Albemarles and Horsas were received at this time and on 1st February 1945, the school had 69 Master IIs, 61 Hotspurs, 7 Horsas, 7 Tiger Moths and 6 Albemarles. The main party of No.3 GTS moved to Wellesbourne Mountford on 24th July 1945, with Gaydon as a satellite field and remained there until disbandment on 3rd December 1947.

Aircraft: Master II: DL325, DL373, EM346; Tiger Moth: DE194, DE887; Hotspur: HH451, HH591; Magister: T9736, V1067

No.4 Glider Training School

No.4 GTS was formed at Kidlington on 13th July 1942 by redesignating No.101 (Glider) Operational Training Unit and took over Kingston Bagpuize as a satellite in January 1943. In April 1943, the school was closed and personnel transferred to No.20(P)AFU.

Aircraft: Audax: K3684, K7331, K7380; Hind: K5450, K5515, K6685; Hector: K8122, K8136, K8158; Hotspur: HH146, HH227

No.5 Glider Training School

No.5 GTS was formed at Kidlington on 30th June 1942 and moved to Shobdon on 30th July with Lysanders. Hotspurs were received during the month and the standard tug become the Master II during August. In July 1944, Hockley Heath was taken into use as a reserve landing ground. The school closed on 30th November 1945.

Aircraft: Hector: K8166; Master II: DL961, DM360, EM291

No.20 (Pilots) Advanced Flying Unit

No.20(P)AFU was formed on 10th March 1943 and later in the month absorbed the personnel of Nos.1, 2 and 4 GTSs. On 1st November 1944, it became No.1 GTS.

No.101 (Glider) Operational Training Unit

No.101(G)OTU was formed at Kidlington on 1st January 1942 with a RLG at Barford St. John. Hectors and Hotspurs were received, later supplemented by Tiger Moths, Hinds and Audaxes. In June 1942, a RLG was taken over at Glympton, (presumably Kiddington) but on 13th July 1942, the unit was redesignated No.4 GTS.

Aircraft: Hind: L7701; Audax: K7468; Hector: K8093, K8099, K8134, K8139, K8145; Hotspur: BT719, BT677

No.102 (Glider) Operational Training Unit

No.102 (G)OTU was formed at Kidlington on 10th February 1942 with Hectors and Hotspurs. Training began on 27th February and some Hinds and Audaxes added until June when Lysanders were to become the standard tugs. However, on 13th July the unit was redesignated No.4 GTS and its Lysanders were passed on to No.5 GTS.

Aircraft: Hector: K8166, K9703, K9706; Audax: K7331, K7495, K8324; Hind: L7223; Tiger Moth: DE304; Hotspur: BT795, BT680, BT683

Glider Instructors School

Formed at Thame on 25th August 1942, the GIS closed on 13th January 1943.

Aircraft: Hind: K5421, K5450; Hector: K8097, K9142, K9743

WORLD WAR ONE PRESENTATION AIRCRAFT

A feature of both World Wars has been the number of aircraft presented to the Government by both associations and individuals. While very few individuals could approach the munificence of the Maharajah of Hyderabad who in 1918 presented to the RAF one complete squadron of 18 de Havilland D.H.9As, it is nevertheless surprising how many private individuals, particularly in W.W.I, managed to give a complete aircraft. Apart from individuals, most presentation aircraft came from subscription associations, such as that organised by Mr. Alma Baker in Malaya, or the various branches of the Overseas Club.

In late 1915, when aircraft were still a great novelty to most civilians, the Government sent a memo to the squadrons in the field requesting some details of the activities of presentation aircraft so that these could be passed on to the donors. Apparently some donors had shown interest in the exploits of their donations and it was felt in high quarters that if interest could be maintained then perhaps further donations would result.

It appears that most squadrons ignored the memo or replied to the effect that no records were available. One or two gave bald details of missions flown but one particular reply deserved reproduction in full.

"Oct. 1915 B.E.2C 1699 Presented by a Chinese Bank
This aeroplane had a short life and a mournful ending. It carried out a first and uneventful reconnaissance with success. Shortly after starting for its second reconnaissance the engine developed a serious defect. Finding itself unable to carry out the duty upon which it had started and distressed at the disgrace involved, the engine followed the traditions of the East and completely disembowelled itself. The entrails of the engine having been strewn over the face of Flanders, the aeroplane was compelled to descend. In the ensuing forced landing in unfavourable ground the machine was totally wrecked, but pilot and observer escaped uninjured."

By mid-1918 so many presentation aircraft had appeared that the whole subject had become something of a joke to those actively connected with operations. So many memos had gone out ordering photographs to be taken of new presentation aircraft that one Depot in Kent would simply paint the requisite inscription on to a piece of doped fabric and then stick this to the nose of any aircraft, usually an S.E.5A, which was handy. They were done in batches, so that it is possible to find photographs of one aircraft with perhaps six different inscriptions on its nose.

However, the whole matter was taken much more seriously in the higher echelons. In July 1918 the Air Council decided to investigate the possibility of presenting a model aircraft to every donor. They instructed General Whittington, the D.A.E., to have made specimen models. Accordingly two models, one in metal and one in wood, were made at 4 C.A.R.D. at a cost each of £5.11.0 and £2.10.0 respectively. These were presented to the Air Council for approval by D.A.E. but were rejected as unsuitable. On 8th August it was decided that the "models should be silver, bronze or some white-metal."

On 6th September C.G.E. memoed to the Sec. Air Council "105 aircraft presented year ending 31st July 18. Cost of presenting models £7290 in silver £4860 wood and fabric." This memo was annotated by A.F.S. on 11/9/18 "Expenditure unnecessary - not warranted". One can almost hear the growl - "Don't they know there is a war on!" However D.A.E. came back on 21/9/18 with "Genuine donors as distinct from War Savings Subscriptions, etc. averaged 60 p.a. for last 4 years."

Five days later an economy note creeps in. C.G.E. to D.A.E. "Air Council decided that models of S.E.5s should be given to donors - not more than one to each donor, society or group of people regardless of the number of aircraft supplied. List of donors requested." So much for the Maharajah of Hyderabad.

AM 1/75

By 7/12/18 the War was won and D.A.E. was really ready to go. D.A.E. to C.G.E. "List of donors attached. Estimates for 270 model S.E.5s attached.

Mappin & Webb Ltd. 4/12/18
270 Solid Silver Model Aeroplanes
18½" over planes
Enamelled discs
Rudder enamelled both sides
Aerlions (sic), rear planes and rudder to be jointed
Movable cowl over engine
Mounting for gun, Instrument board and Joy stick
Movable seat in cockpit
Silver ground on ebonised plinth with silver plate engraved with inscription. NETT £60 each."

This estimate was marked "Above not to be considered."

"Elkington & Co. Ltd. 5/12/18
for Supplying a quantity of 270 Aeroplane Models, 18" spread of wings and 16" from propeller to tail, including inscription plate and engraving inscriptions and on pedestal complete; each fitted in a separate oak case, as previously supplied for the sum of £48 each."

This estimate was marked "Above for consideration."

"The Goldsmiths and Silversmiths Company Ltd. 4/12/18
To making 270 solid silver S.E.5 aeroplanes 18½ inch span, the rest to scale, with enamel discs as your pattern and showing all necessary details each £46.0.0
do do do 22 inch span £57.10.0
The above prices include a plinth for each model with silver plate and short inscription engraved."

This estimate was marked "Above for consideration and recommended."

D.A.E. went on to say that the estimates were for 270 models to allow "a small margin for any other presentations the Air Council might make." Total donors were 248.

It didn't take the Air Council long to decide. C.G.E. to A.F.S. 12/12/18. "Air Council accepted Goldsmiths and Silversmiths. Total cost £12000 - £13000. To be paid from sums originally subscribed for presentation aircraft and paid into Treasury." In other words they hoped the surplus from the presentation funds would pay for the models a grateful Government intended to give the donors of the money. Rather a shrewd move but alas - H. Holloway to A.F.S. 1/1/19. "Sums subscribed not sufficient to cover cost of presentation aircraft therefore no surplus from which to pay for models. Treasury sanction required and most unlikely." A.F.S. passed on the bad news to C.G.E. 4/1/19. "Still opposed to idea but will make out best possible case for submission to Treasury if Air Council insists."

The Air Council then had second thoughts and what second thoughts they were, too. C.G.E. to D.A.E. 17/1/19. "The Air Council decided that models were to be confined to those donors who are not expecting or claiming the return of the machine presented or its equivalent." D.A.E. to C.G.E. 27/1/19. "Don't know who is expecting or claiming return of machines." The mind boggles. Mr. Alma Baker could have started his own Malayan Air Force if he had only known.

However on 28/1/19 C.G.E. to A.F.S. "Please put it to Treasury - about 140 models." There is no record of the Treasury decision, but a final memo on the file from D.D.E. reads "Air Council decided on 1st May 1919, 84th Meeting, to abandon the scheme previously approved of granting silver model aeroplanes to donors, in recognition of their gifts."

It was a nice thought and would have been a nice gesture to all those patriotic donors of aircraft, even those who wanted them back. But it is

incredible that at a critical period in a major war the Air Council could have spent so much time, money and effort on a nice thought.

It would be interesting to know if any of the models have survived. Judging from an extract from the Minutes of Air Council 49th Meeting of 12/9/18 - "...it was decided that a model in silver should be submitted to Council for further consideration of the matter before any definite action was taken." - plus the mention in Elkington's estimate "as previously supplied", samples must have been submitted, probably with the estimates. A solid silver S.E.5 with enamelled discs, 18" wingspan, would look nice on the mantelpiece, wouldn't it?

Individual Aircraft presented

The following lists show the serial numbers and actual inscriptions as carried by each aircraft, spelling and presentation as shown even if inaccurate.

Armstrong Whitworth F.K.8

B248	Punjab 25 Kangra Gurdaspur	B5824	Britannia
B250	Baroda No.5	C3508	Victoria, Hong Kong
B252	Shanghai Race Club	C3584	Punjab (22) Simla Hills
B266	Rhodesia No.2		

B.E.2C

1695	Overseas
1698	Victoria, Hong Kong
1699	Presented by a Chinese Bank
1701	British West Indies
1714	Eu Tong Sen of Perak
1744	Rhodesia No.1
2122	Cape Town No.2
2127	Hong Kong
2492	Punjab 41, Pindi-Attock
2503	John L. Macauley
2504	Overseas Club
2509	Overseas Club No.6 Empire Day 1916
2543	En Tongo San Perak Malaya No.1
2552	Presented by the British residents in Hankow
2572	Johannesburg No.1
2573	Johannesburg No.2
2578	Rhodesia No.3
2587	Baroda
2664	Raghunath Aeroplane Goldinganj
2667	Malaya XVI Menang
2680	Malaya No.2
2682	Reid, Newfoundland
2683	Rhodesia
2685	Malaya
2687	Tasmania
2688	Nigeria
4071	St. Catherines, Ontario
4072	Shanghai Britons
4073	A Paddy-Bird from Ceylon
4371	Baroda No.10

B.E.2C (Cont'd)

4372	Presented by His Highness the Khan of Kalat
B 6152	Shanghai Britons
B 6153	The Anzac
B 6154	Malaya 13 The Alma Baker No.2
B 6151	Leicester

B.E.2E

6802	United Commercial Travellers Association of Australia
A 1402	Presented by Arthur H. Sieger of Calcutta, Guinevere
A 1403	Punjab (21) Ferozepore
A 1407	Presented by His Highness The Sultan of Johore
A 1409	Jeypores Vizag
A 3050	Tasmania
A 3057	Gwalior 3
A 3060	Punjab (40) Lahore III
A 3063	From the British West Indies
A 3065	Presented by His Highness The Maharajah of Bikanir
A 3066	Presented by His Highness The Maharajah of Bikanir No.3
A 3067	Presented by His Highness The Maharajah of Bikanir No.4
A 3068	Western Province of the Gold Coast
A 3069	Shanghai Race Club No.3
A 3070	Otago New Zealand
A 3071	Alexandria (Egypt) Britons No.1
A 3072	Shanghai Britons No.4
A 3073	Baroda No.1
A 3074	Udaipur No.3
A 3075	Udaipur No.4
A 3076	Udaipur No.2
A 3077	Tonk
A 3079	Rajputana No.2
A 3081	Nigeria No.3
A 3082	East Africa Protectorate
A 3083	Victoria, Hong Kong
A 3084	Baroda No.9
A 3086	Punjab (35) Hariana
A 3087	River Plate No.2
A 3089	Queenstown Cape
A 3090	Baroda No.7
A 3093	Ashanti No.2
A 3094	New York Britons No.3
A 3095	Chiengmai (N. Siam) Britons No.1
A 3096	The Trinidad & Tobago Aeroplane
A 3097	Mahi Kantha
A 3098	Ashanti
A 3099	Penang 2
A 3100	Malaya 10 Malacca Chinese
A 3101	Sir Robert Ho Tung, Hong Kong
A 3102	Malaya XV Cheow Teong Ngok Bee
A 3103	Punjab (17)
A 3104	Punjab (20) Gujranwala
A 3105	From the European & Indian Staff of the Bombay Baroda & Central India Railway Company
A 3107	Nigeria
A 3109	Presented by Rio Gallegos Britons Argentine
A 3110	Rio de Janeiro Britons No.2
A 3111	Tokyo Britons No.1
A 3136	Saran

B.E.2E (Cont'd)

A 3140	Presented by His Highness the Maharaja of Bikanir No.2
A 3144	Orissa States No.2
A 3146	Madras
A 3164	Punjab (14) Kashmir
B 748	Orissa States
B 3689	Malaya No.3
B 3691	Nigeria II
B 3693	Punjab 38 Amritsar
B 3700	Overseas Club Empire Day 1916 No.2
B 4461	Rhodesia No.1
B 4463	Black Watch No.1
B 4481	Punjab 39 Ferozepur 2
B 4482	Kwahu
B 4484	Rewa Figi. Presented by the natives of Rewa Province, Colony of Figi for the use of the Royal Flying Corps 1917
B 4485	Overseas Club Empire Day 1916 No.5
B 4486	Presented by the Bombay Cotton Trade Association Ltd.
B 4501	Cape Town No.3
B 4504	Tai Yan Bank Hong Kong
B 4505	The Clan Macleod
B 4507	Yangtse Valley
B 4510	Canada
B 4511	Punjab (18) Dhariwal
B 4512	Presented by His Highness the Sultan of Johore
B 4514	Punjab (13)
B 4517	Baroda 12
B 4520	Accra
C 6902	Manya Krobo
C 6903	Punjab 42 Hoshiapur Ambala
C 6908	Hofook Hong Kong
C 6909	Baroda No.3
C 7001	Madras 2
C 7002	Malaya XIV The Garland Hope
C 7003	Sierra Leone
C 7004	Malaya 6
C 7005	The seven seas presented by the Overseas Club
C 7102	Ramnad
C 7103	Overseas Club Empire Day 1916 No.1
C 7105	Liverpool
C 7106	Baroda No.8

BRISTOL F.2B

A 7190	New South Wales No.14 Women's Battleplane subscribed and collected by women of New South Wales
A 7200	New South Wales No.12 presented by the Government of New South Wales
A 7226	Kotah No.2
A 7237	New South Wales No.8
B 1107	Falkland
B 1108	Udaipur No.2
B 1111	Punjab (44) Lahore
B 1122	Dominica
B 1143	Kotah No.1
B 1145	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.3
B 1146	New South Wales No.1 The White Belltrees
B 1147	South Australia
B 1148	New South Wales No.2 The White Edenglassie

BRISTOL F.2B (Cont'd)

B 1149	New South Wales No.10 Government Duplicate the Tweed No.9
B 1186	Montreal No.4
B 1223	New South Wales No.16 The Upper Hunter Battleplane presented by the Residents of the Upper Hunter District, N.S.W.
B 1229	New South Wales No.11 The Macintyre Kayuga Estate
B 1230	Montreal
B 1231	Winnipeg
B 1232	Toronto
B 1234	Edmonton
B 1242	Ajmer
B 1262	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.2 The Lord of Chelmsford
B 1285	New South Wales No.6 The White Edenglassie
B 1300	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.4
B 1330	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.5
B 1335	Malaya 23 The Malacca
C 797	Udaipur No.1
C 970	Malaya XIX The Singapore No.2
C 989	Bhopal Presented by Her Highness the Begum of Bhopal
C 1034	Zanzibar No.17 Presented by the Government of Zanzibar
C 4623	New South Wales No.7 The McCAUGHEY Battleplane
C 4624	The Macintyre Kayuga Estate
C 4626	The Women's Battleplane
C 4627	City of Adelaide - South Australia Presented by Mr. Harry Bickford
C 4635	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.3
C 4810	Gold Coast No.11
C 4831	Presented by the Government of Johore No.6
C 4840	The New South Wales No.3. The Mrs. P. Kirby & Son
C 4868	Presented by the Government of Johore No.2
D 2649	Gold Coast 14
D 2652	Armenia Malaya 7
D 2660	Zanzibar 5
D 7894	Kotah No.1
D 7902	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.4
D 7913	Malaya XXIII The Malacca
D 7939	Toronto
D 7942	Falkland
D 7945	Gold Coast No.11
D 8061	Zanzibar No.18 Presented by the Government of Zanzibar
D 8062	Zanzibar 19
D 8064	Zanzibar No.20 Presented by the Government of Zanzibar
D 8065	Australia 24 South Australia No.2 Mrs. Sidney Kidman Presented by Mrs. Sidney Kidman, Eringa, Kapunda, S. Australia
E 2233	Alresford District Council
E 2452	Montreal
E 2453	Dominica
E 2455	Udaipur No.2
E 2457	Punjab 44 Lahore
E 2525	Auckland
F 4333	Dominica
F 4334	Montreal
F 4336	Zanzibar No.17
F 4337	Zanzibar 18
F 4355	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.4
F 4440	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.1 The Lord Hardinge
F 4470	Newfoundland No.4

BRISTOL F.2B (Cont'd)

F 4677	Kotah No.2
F 4678	Winnipeg
F 4679	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.5
F 4680	Presented by the Government of Johore No.6
F 4774	Presented by Maharaja Bahadur Sir Rameswar Singh of Darbhanga No.3

CURTISS JN-4 (CAN)

C 138	City of Toronto
C 282	Winnipeg
C 421	Ontario No.1
C 1347	City of Edmonton

De Havilland D.H.4

A 7427	Manitoba
A 7441	River Plate
A 7442	Presented by His Highness the Maharaja of Bikanir
A 7452	Penang
A 7458	Malaya 26 The Malacca Chinese
A 7461	The Akyab
A 7464	Mauritius No.1
A 7483	Australia No.5 New South Wales No.4 Prest White Family
A 7488	Australia No.18 N.S.W. No.17 The Upper Hunter Battleplane
A 7489	Zanzibar XII
A 7491	Punjab (6) Nabha
A 7535	Newfoundland No.1
A 7553	Zanzibar VIII
A 7578	Baroda No.16
A 7600	New South Wales No.17
A 7710	Elizabeth Campbell of Inverell Station
A 7713	Zanzibar No.10
A 7756	Presented by His Highness the Maharaja of Jind
A 7771	Jamaica No.1
A 7781	South Africa
A 7864	Felixstowe
A 7876	Shanghai Race Club No.2
A 7901	Jamnagar No.1
A 7950	Ontario
A 7997	Gold Coast I
A 8002	Presented by the Colony of Mauritius No.2
A 8010	North Queensland Grazier
A 8076	Zanzibar VI
A 8077	Punjab (4) Jind
A 8078	Bombay No.1
B 2098	Jamnagar No.2
B 2099	Jamnagar No.3
B 2101	Presented by the Colony of Mauritius No.9
B 2102	Britons in Chili No.1
B 2110	Malaya XXI The Tan Jiakkim
D 8380	Malaya 27 Betina
D 8406	Presented by British Subjects of all Races in Siam

De Havilland D.H.5

A 9242	Australia No.15 N.S.W. No.14 The Women's Battleplane
A 9245	N.S.W. No.18 Upper Hunter

De Havilland D.H.5 (Cont'd)

A 9257	Dungarpur
A 9287	New South Wales No.9 The Tweed
A 9347	Greenacre Durban
A 9353	Hong Kong No.8
A 9354	Overseas Club Empire Day 1916 No.4
A 9357	Malaya 33 Alma Baker 4
A 9414	Dungarpur
A 9415	Australia No.8 N.S.W. No.7 The Mrs. P. Kirby & Son
A 9432	Australia No.16 N.S.W. No. 15 The Women's Battleplane
A 9445	Benares
A 9461	Chicago
A 9500	Presented by the Solanki Princes Chiefs and Nobles Balghel
A 9507	Christchurch Overseas Club
A 9511	Malaya 2
A 9513	Presented by the Native Administration of Benin in Southern Provinces of Nigeria
A 9515	The Springbok
A 9517	Johannesburg No.1
A 9518	Punjab 37 Chambra
A 9519	Punjab 12 Kashmir
A 9522	Presented by the Citizens of the Town and district of Thana

De Havilland D.H.9

B 7672	Presented by Patrick Burns Esq., of Calgary Alberta
B 9395	Australia 28 Queensland 3 The Mackenzie Tooloombah presented by Hugh & Murdo Mackenzie, Tooloombah Station, Rockhampton, Queensland
C 1158	Jamnagar No.3
C 1165	Baroda No.16
C 1214	Elizabeth Campbell of Inverell Station
C 1316	Georgetown Presented by the Munition workers of the Scottish Filling Factory
D 485	Faridkot No.1
D 492	Faridkot No.2
D 1009	River Plate
D 1016	Jamnagar No.2
D 1043	Newfoundland No.1
D 1046	Zanzibar 8
D 1050	Jamnagar No.1
D 1051	Zanzibar XII
D 1054	Punjab (6) Nabha
D 1177	Britons in Chili No.1
D 1211	Faridkot No.2
D 1249	Jamnagar No.2
D 1251	Malaya XXI. The Tan Jiak Kim
D 1252	Presented by British subjects of all races in Siam
D 1253	Zanzibar 12
D 1254	Presented by the Colony of Mauritius No.2
D 1255	Baroda No.16
D 1257	Malaya 27 Betina
D 1258	Gold Coast 11
D 1259	Presented by the Colony of Mauritius No.9
D 1260	North Queensland Grazier
D 1262	Georgetown Presented by the Munition Workers of the Scottish Filling Factory
D 1263	Gold Coast No.1
D 3261	Presented by His Highness the Maharaja of Bikanir No.12

De Havilland D.H.9 (Cont'd)

D 5816	Faridkot No.3
D 5838	Presented by His Highness the Maharaja of Bikanir No.9
D 5845	Presented by His Highness the Maharaja of Bikanir No.10
D 7224	Presented by Patrick Burns Esq., of Calgary Alberta
D 7352	Presented by His Highness the Maharaja of Bikanir No.11
D 9807	City of Glasgow, Canada
E 9046	The J.M. Dixon No.1
F 1201	City of Glasgow, Canada
F 1222	Australia No.26 Queensland No.2, The Banchory Presented by E. Landerdale Ramsey of Banchory
F 1227	Australia No.27 Victoria No.2 The Murroa
H 4242	The J.M. Dixon No.2
H 4277	Presented by M.W. Oldham Esq. of Newsteed - New South Wales

De Havilland D.H.9A

E 8410	Hyderabad No.10
E 9660	Hyderabad No.9
F 977	Hyderabad No.18
F 978	Hyderabad No.14
F 980	Hyderabad No.2
F 981	Hyderabad No.17
F 983	Hyderabad No.1
F 985	Hyderabad No.4
F 986	Hyderabad No.5
F 992	Hyderabad No.8
F 993	Hyderabad No.6
F 995	Hyderabad No.15
F 996	Hyderabad No.11
F 997	Hyderabad No.3
F 1000	Hyderabad No.7
F 1004	Hyderabad No.12
F 1005	Hyderabad No.16
F 1010	Hyderabad No.12A

F.E.2A

4295	Gibraltar
5642	Montreal No.1
5645	Montreal No.2

F.E.2B

5201	Bombay No.1
5202	Newfoundland 4
5226	Punjab & Nagra
6944	Newfoundland IV
6962	Gold Coast
6971	The Sydney Kidman
7004	Zanzibar IV
7021	Punjab (33) Ludhiana
7027	South Australia 1 The Sydney Kidman
7686	New South Wales 1 The White Belltrees
7689	New South Wales 3 The Mrs. P. Kirby & Son
A 5447	New South Wales 5 The White Belltrees
A 5466	Baroda No.13
A 5478	Gold Coast 10

A 5630	Punjab 5 Nabha
A 5648	Baroda 14
A 5661	Montreal No.2
A 5692	Punjab (1) Bahawalpur
A 5709	Junagadh No.3
A 5729	Gold Coast No.9
A 5732	Malaya 30 The Ashworth Hope
A 5733	Warneford Burma
A 5735	Presented by the Colony of Mauritius No.13
A 5760	Presented by the Government of Johore No.4
A 5761	Presented by the Colony of Mauritius No.15
A 5764	Presented by the Sultan of Kedah
A 8950	Leeds
B 440	Gold Coast No.14
B 441	Presented by the Colony of Mauritius No.4
B 442	Malaya 28 Laju
B 443	Presented by the Government of Johore No.7
B 453	Junagadh No.2
B 455	Rajpipla
B 456	Malaya 8
B 457	Zanzibar No.5
B 485	Punjab (29) Rawalpind
C 9786	Malaya XI Joffna
C 9789	Malaya XVII The Alma Baker No.3
C 9790	Gold Coast No.10
C 9791	Shanghai Exhibition
C 9828	Presented by the Colony of Mauritius No.4
C 9829	Malaya XIX The Singapore No.2
C 9833	Punjab (27) Lyallpur
C 9834	Shangahai Exhibition
D 3824	Punjab (16) Lahore
D 3829	Kaffraria
D 3830	Punjab (36) Derajat
D 9917	Montreal
D 9964	Gold Coast Aborigines No.2
D 9991	Api
D 9993	New South Wales No.5
D 9998	South Australia No.1 The Sydney Kidman
D 9999	New South Wales No.15
E 7037	Hawkes Bay, New Zealand
E 7042	Baroda No.6
E 7043	Johannesburg No.2
E 7044	British Residents in the Netherlands East Indies No.1
E 7046	Malaya 4
E 7052	Central Argentine Railway Aeroplane
E 7056	Malaya XVI Menang
E 7064	South Africa
E 7068	Baroda No.13
E 7074	Madras
E 7078	Mauritius No.1
E 7080	Punjab (6) Nabha
E 7081	Faridkot No.3
E 7082	Leeds
E 7085	Toungoo District Burma
E 7086	Punjab (5) Nabha
E 7087	Penang
E 7088	Malaya 17 The Alma Baker No.3

THE DEVELOPMENT OF BRITISH AIRFIELDS

When military flying began in Britain, little was required of an airfield other than that it should have a reasonably level surface and be close to a military establishment. As flying was normally only carried out in fine weather, the meteorological record of the area was of little importance. Accommodation was in wooden sheds or canvas hangars and seaplane stations were provided with a slipway or a crane. As aircraft were light, little major engineering was required.

After the outbreak of World War One, the need for airfields increased considerably. Existing airfields were built up and new ones selected. A network of landing grounds was set up, these having no facilities but manned by a few airmen to assist any transient aircraft. Some were regularly used by certain home defence squadrons to extend their patrol areas and were manned by detachments from the squadrons. The needs of home defence units, training units and operational coastal patrols multiplied the number of airfields available by 1918 and some became very large establishments.

Buildings became more permanent and examples of the final form of hangars can be seen at Southampton, Duxford and Filton. Between the wars, there was little change other than the replacement of hutted camps by more permanent buildings as and when finance permitted. It was not until the mid-1930s that major changes in airfields began to take place.

To cater for the expansion scheme, a large number of new airfields had to be constructed. Many existing airfields were badly-placed for operational use against Germany and a search was begun for new sites. The obvious first choices were airfields used in World War One and later abandoned and a number of these were requisitioned and rebuilt. The requirements were now a firm, stable surface with good smooth turf to bind it together, good drainage, the least possible amount of levelling, good access and a good weather record. Needless to say, many of these desirable qualities had to be abandoned in face of operational requirements.

A standard airfield was devised by the Director General of Works at the Air Ministry which was modified according to circumstances. An airfield should be of 1,100 yards diameter to provide a safe practice bombing area in the centre and thus avoid the need for separate bombing ranges. Landing strips were marked out with usually a main one 1,300 yards long and 400 yards wide with two subsiduaries 1,000 yards by 200 yards. The approaches were kept clear.

As aircraft weights increased, it was decided to provide tarmac strips to enable laden bombers to gain flying speed. In May 1939, this was extended to provide 12 stations with 800 by 50 yd runways placed on two existing grass strips and connected with a 50 ft wide taxitrack. At the outbreak of war in September 1939, only nine airfields had runways, these being to the later standard of 1,000 by 50 yds designed for a Wellington at 32,000 lb AUW and a tyre pressure of 45 lb/sq in. In February 1940, a new standard was adopted for bomber airfields which would have a three-runway pattern as near to 60 degrees to each other as possible and in December a new standard required one 1,400 yd and two 1,100 yd runways soon extended to two 1,600 yd and two 1,100 yd capable of extension to 2,000 yd. Fighter stations were less affected by lack of runways but a specification for fighter airfields drawn up in March 1941 required one 1,300 yd and two 1,100 yd runways. A night fighter station should have one runway of 1,400 yds.

In 1942, with bomber airfields inhabited by large four-engined bombers of far greater weight than envisaged when the scheme began, a standard airfield was to have one main runway 2,000 by 50 yds on a northeast-southwest axis and two others 1,400 by 50 yds. 100 yards would be cleared at each end of the runways while a 75 yard margin would be consolidated for use as emergency landing strips. Peritracks were to be 50 ft wide with no buildings within 150 ft of the centreline.

To guard against air attack catching aircraft in hangars or lined up on the tarmac, a system of dispersal was adopted in 1939. Aircraft were parked around the perimeter of the airfield and later spread into neighbouring fields. Bad weather often made recovery of these difficult and to ease taxying and towing, a system of hardened taxyways was laid out. These developed into a pattern of 125 ft diameter circular hard-standings irregularly sited off the perimeter track and connected by 50 ft short taxyways ("frying pans") and as numbers of aircraft based on a single field grew loops of taxyway on either side of the peritrack were built ("spectacles"). At maintenance and training units, the taxyway system extended well beyond the normal boudaries of the airfield.

During World War Two, a total of 444 airfields with runways was built in the United Kingdom. In 1942, there was a peak labour force of 60,000 men building airfields which were being completed at a rate of one every three days. When the US Army Air Force began to arrive at the end of 1942, the numbers of airfields required increased and fifty new airfields were built for the VIIIth and IXth AAFs, 36 by the Air Ministry and 14 by the US Army with Air Ministry engineers and material.

Flying boat bases were ideally 4,000 yds in diameter with a mean depth of 10 ft. They should be free of shipping and debris, have suitable access for slipways and have a 1 in 50 gradient free from obstructions around the perimeter of the alighting area. Wartime operations from Mount Batten and Pembroke Dock in the midst of heavy shipping traffic show how this ideal was seldom achieved.

Some grass airfields acquired pre-fabricated runways, the earliest system being the "Chevron Grid" developed in 1938/39 About a dozen other systems were used, the main ones being Pierced Steel Plank (PSP) and Prefabricated Bitumen Surfacing (PBS) the latter being developed by the Canadian Army.

Other specialised runways were laid down at emergency landing fields which received damaged aircraft which might have blocked or damaged operational airfields if landed back at base. These emergency runways were 3,000 by 250 yards with overshoots at either end 500 by 400 yards. Carnaby, Woodbridge and Manston were examples of these extended runways.

In preparation for very heavy bombers, it was decided that selected airfields would have one 3,000 yard runway, 100 yards wide able to take aircraft of 140,000 lb AUW and tyre pressures of 85 lb/sq in. The B-29 was the obvious user and Heathrow originally started out as a plan for a B-29 base.

These extended runways were the basis for post-war airfields, wind direction having less and less influence as power and size of aircraft grew. Dispersals at fighter airfields developed into small numbers of operational readiness buildings or operational readiness platforms built on to the sides of runways to enable fighters to be parked ready for immediate take-off without obstructing aircraft landing or taking-off.

The ultimate perhaps came with the basing of vertical take-off fighters at Wittering which possesses one of the longest runways in the country.

ROYAL AIR FORCE STATION, DUXFORD, 1918-1961

In the early months of 1918, a site near Duxford was selected as an airfield to house a training unit of the Royal Flying Corps. The work done by training squadrons all over the British Isles was soon to be concentrated in a number of Training Depot Stations which would specialise in certain fields - single-seat fighters, fighter-reconnaissance, light bomber, etc. Duxford would house one of these TDSs and pending its formation would be used by new squadrons being mobilised for service in France. Three such squadrons were formed on 1 March 1918 and their nuclei were supplied by training units on that day. All three were day bomber squadrons and their aircraft began to arrive by the end of March. On 1 April 1918, the Royal Air Force was formed.

Accommodation at Duxford was normal for a TDS, six hangars and an aircraft repair shed being provided for the aircraft and a hutted camp for living and administration quarters. The airfield was 1,000 yards square.

No.35 Training Depot Station was formed on 15 July 1918, having been originally destined to be based at Thetford and training continued until the Armistice in November 1918 brought most training activities to a halt. Apart from the arrival of No.8 Squadron from France to await disbandment, little happened in 1919 but in June 1920 No.2 Flying Training School was formed as the post-war RAF took shape. On 1 April 1923, Nos.19 and 29 Squadrons were reformed at Duxford which became a fighter station for the rest of its history. Snipes, Grebes, Siskins, Bulldogs and Gauntlets came in succession until the first Spitfire arrived on 4 August 1938 and Duxford became the first Spitfire station as Nos.19 and 66 Squadrons re-equipped.

After the outbreak of war, many fighter squadrons came and went and to accommodate more aircraft a satellite field at Fowlmere was opened in the summer of 1940 and dispersal pens built around the field to protect aircraft against bombing. During the Battle of Britain, Duxford's fighters covered the Northern approaches to London but little damage was done by enemy bombers. At the end of 1940, the Air Fighting Development Unit moved in from Northolt to build up into a major establishment. In time it also produced No.1426 (Enemy Aircraft) Flight which flew captured enemy aircraft for demonstration purposes.

October 1942 saw the arrival of batches of US Army Air Corps men and the Airacobra was seen again in the shape of P-39s, some of them P-400s rejected by the RAF after No.601's experiences. The 350th Fighter Group dispersed its three squadrons to Coltishall, Snailwell and Duxford, the 345th Fighter Squadron being at Duxford. In January 1943, the unit began to transfer to North Africa. The USAAF came back in force in April 1943 when the 78th Fighter Group's Thunderbolts took up residence. Re-equipped with Mustangs in December 1944, the 78th flew escort and fighter-bomber missions until the end of the war and in October 1945 left for home.

Returned to the control of Fighter Command on 1 December 1945, the station was manned by transferring the personnel of Andrews Field to Duxford. Spitfires gave place to Meteors, Javelins and Hunters before the station closed on 1 August 1961.

Today Duxford stands remarkably preserved as the home of the historic aircraft of the Imperial War Museum and the East Anglian Aviation Society.

Unit	Arr'd	From	Left	To	Aircraft
No.119 Sqn	1.3.18	Formed	11.18	Disbanded	D.H.9
No.123 Sqn	1.3.18	Formed	14.10.18	Disbanded	D.H.9
No.129 Sqn	1.3.18	Formed	4.7.18	Disbanded	D.H.9
No.35 TDS	15.7.18	Formed	.19	Disbanded	D.H.4, D.H.9 Avro 504K
No.8 Sqn	28.7.19	France	20.1.20	Disbanded	Bristol F.2B
No.2 FTS	6.20	Formed	7.24	Digby	Avro 504K, D.H.9A, Bristol F.2B, Snipe
No.19 Sqn	1.4.23	Formed	11.6.35	Henlow	Snipe, Grebe, Siskin, Bulldog
No.29 Sqn	1.4.23	Formed	1.4.28	N.Weald	Snipe, Grebe, Siskin
No.111 Sqn	1.10.23	Formed	1.4.28	Hornchurch	Snipe, Grebe, Siskin
No.19 Sqn	20.7.35	Henlow	17.4.40	Hornchurch	Gauntlet, Spitfire I
No.66 Sqn	20.7.36	Formed	16.5.40	Hornchurch	Gauntlet, Spitfire I
No.611 Sqn	13.8.39	Speke	10.10.39	Digby	Spitfire I
No.222 Sqn	5.10.39	Formed	10.5.40	Digby	Blenheim If
No.264 Sqn	10.5.40	Martlesham	23.7.40	Kirton-in-Lindsey	Defiant I
No.19 Sqn	16.5.40	Hornchurch	25.5.40	Fowlmere	Spitfire I
No.92 Sqn	25.5.40	Hornchurch	4.6.40	Northolt	Spitfire I
No.19 Sqn	3.7.40	Fowlmere	24.7.40	Fowlmere	Spitfire I
No.310 Sqn	10.7.40	Formed	26.6.41	Martlesham	Hurricane I
No.46 Sqn	18.8.40	Digby	19.8.40	Digby	Hurricane I
No.312 Sqn	29.8.40	Formed	26.9.40	Speke	Hurricane I
No.242 Sqn	26.10.40	Coltishall	30.11.40	Coltishall	Hurricane I
No.19 Sqn	30.10.40	Fowlmere	6.2.41	Fowlmere	Spitfire I
No.258 Sqn	30.11.40	Leconfield	3.12.40	Drem	Hurricane I
AFDU	20.12.40	Northolt	25.3.43	Wittering	Various
No.56 Sqn	26.6.41	Martlesham	30.3.42	Snailwell	Hurr IIB/Typhoon
No.133 Sqn	15.8.41	Coltishall	3.10.41	Fowlmere	Hurricane IIB
No.601 Sqn	16.8.41	Matlask	6.1.42	Acaster Malbis	Airacobra
No.1426 Flt	1.12.41	Formed	25.3.43	Wittering	He 111, Ju 88, etc
No.266 Sqn	29.1.42	Kings Cliffe	21.9.42	Warmwell	Typhoon Ib
No.609 Sqn	30.3.42	Digby	18.9.42	Biggin Hill	Spitfire Vb/Typhoon
No.72 Sqn	2.8.42	Biggin Hill	4.8.42	Morpeth	Spitfire IX
No.181 Sqn	1.9.42	Formed	10.12.42	Snailwell	Typhoon Ib
345th F.Sqn	10.42	Formed	1.43	N.Africa	P-39/P-400
No.195 Sqn	16.11.42	Formed	21.11.42	Hutton Cranswick	Typhoon Ib
No.169 Sqn	20.12.42	Clifton	1.3.43	Barford	Mustang I
No.124 Sqn	5.3.43	Croughton	12.3.43	N.Weald	Spitfire VI/VII
No.4 Sqn	8.3.43	Cranfield	12.3.43	Clifton	Mustang I
No.169 Sqn	12.3.43	Bottisham	25.3.43	Andover	Mustang I
78th Ftr Gp	4.43	Goxhill	10.45	USA	P-47, P-51
No.165 Sqn	18.1.46	Charterhall	1.9.46	Disbanded	Spitfire IX
No.91 Sqn	4.46	Ludham	11.46	Debden	Spitfire F.21,Meteor F.3
No.66 Sqn	1.9.46	Formed	7.10.49	Linton	Spit 16, Meteor F.3,F.4
No.92 Sqn	15.2.47	Acklington	7.10.49	Linton	Meteor F.3,F.4
No.56 Sqn	4.47	Wattisham	3.48	Thorney Is	Meteor F.3
No.64 Sqn	8.8.51	Linton	17.7.61	Waterbeach	Meteor F.8, NF.12, NF.14, Javelin FAW.7, FAW.9
No.65 Sqn	15.8.51	Linton	31.3.61	Disbanded	Meteor F.4, F.8 Hunter F.6

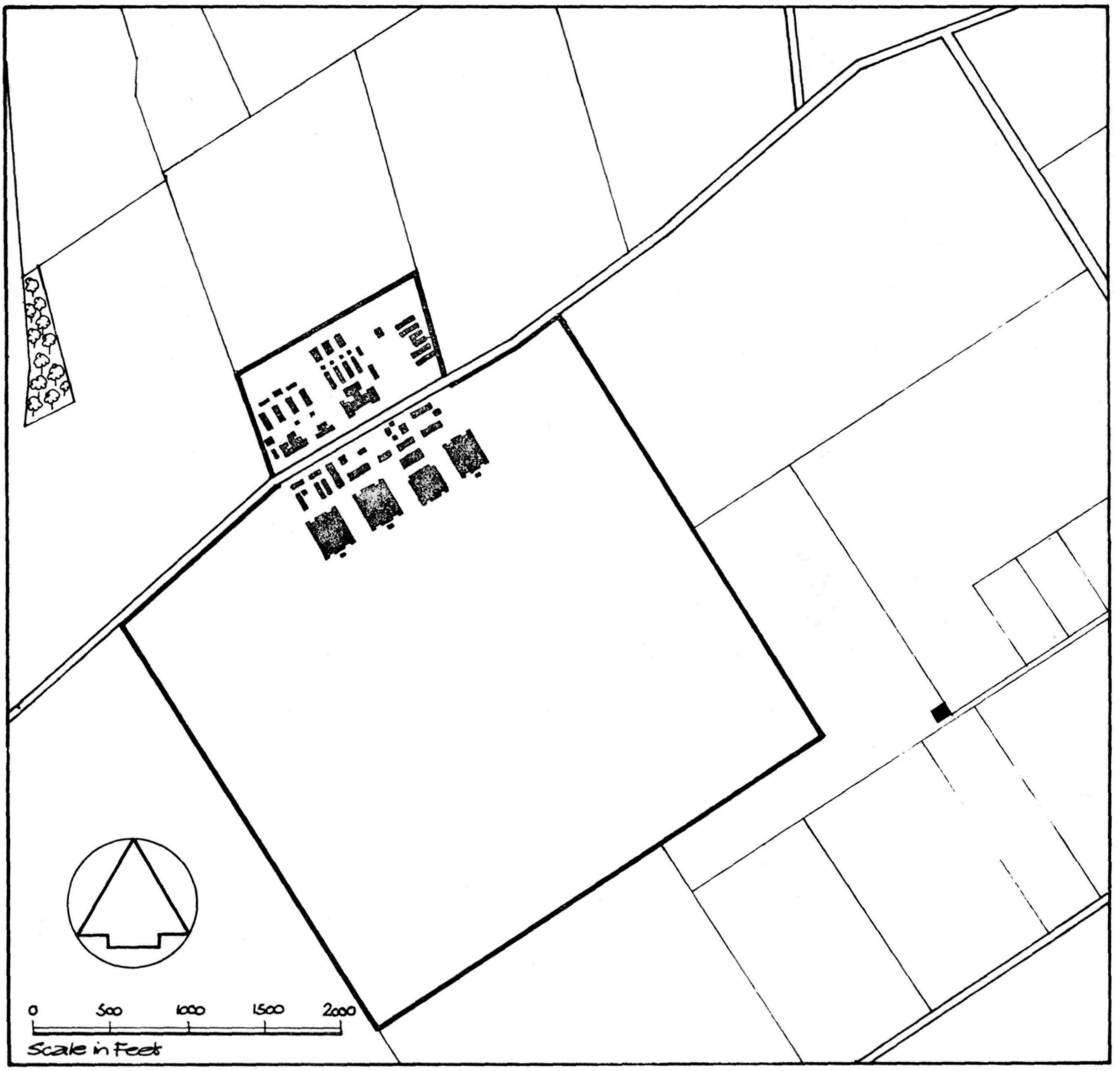
DUXFORD AERODROME

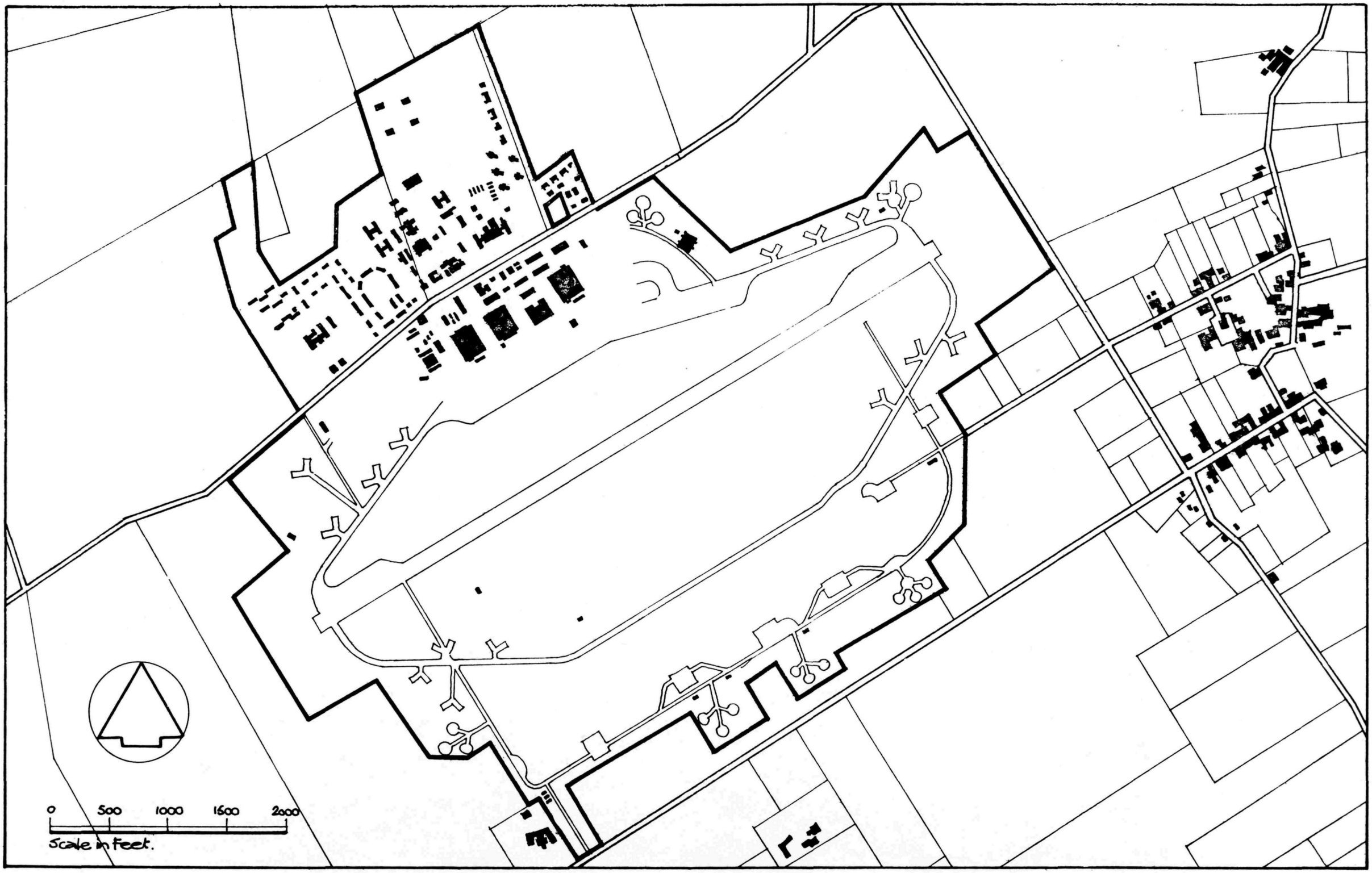
The following two plans show Duxford at the end of World War One and in its final configuration which an operational fighter station in the 1950s.

In 1918, the airfield was a 223 acres site of which 30 acres was occupied by buildings. The landing ground measured 1,000 yds by 1,000 yds and had a good surface. Approximate elevation was 100 feet with a 40-foot variation between east and west borders. Location was 52.05 North, 00.08 East. Six hangars and one aircraft repair shed were built, the hangars in pairs. Each unit measured 170 ft by 100 ft.

More land was acquired before World War Two and the station buildings became permanent structures with married quarters nearby. Dispersal pens were provided during the war for about 60 aircraft and after the war 28 of these were protected by parallel concrete blast walls.

The final runway was 6,000 ft long and 150 ft wide with readiness platforms at both ends; the original headings of 067/247 became 07/25. Identity code was "DX".




0
500
1000
1500
2000
Scale in Feet.

AVRO SHACKLETON MR.Mk1, MR.Mk.1A and T.Mk.4 IN ROYAL AIR FORCE SERVICE

The main type of maritime reconnaissance aircraft in service with land-based units of the Royal Air Force at the end of the Second World War was the Liberator. With the cessation of Lend-Lease provisions, a replacement was required and Specification R.5/46 was issued, calling for a four-engined general reconnaissance aircraft. As an interim measure, the Lancaster GR.Mk.3 re-equipped some squadrons.

The specification was met by the Avro Type 696 Shackleton GR.Mk.1, itself a development of Avro's "Maritime Lincoln" project. The first of three prototypes made its first flight on 9 March 1949.

Twenty-nine Shackleton MR.Mk.1s (the role designation having been changed from General Reconnaissance to Maritime Reconnaissance) were ordered to Specification 42/46, one major change from the prototype being the reduction in defensive armament to a single dorsal Bristol B.17 turret mounting two 20mm Hispano cannon. The first production aircraft flew on 28 March 1950 and No.120 Squadron at Kinloss received its first Shackleton on 30 March 1951 to begin converting from Lancasters. No.236 Operational Conversion Unit, also at Kinloss, was allotted its first Shackleton on 1 June 1951.

Fifty-eight more aircraft were ordered as MR.Mk.1As and differed from the MR.Mk.1 in having four Griffon 57As, the Mk.1 having Griffon 57s outboard and 57As inboard. Surviving MR.Mk.1s were converted to Mk.1A standard. One aircraft from this batch (WB833) was modified on the production line to become the prototype MR.Mk.2.

Seventeen MR.Mk.1As were converted to T.Mk.4s between 1956 and 1961. The turrets were removed and extra radar sets fitted in the bunk area to provide each aircraft with one master and two slave sets. All were used by the Maritime Operational Training Unit.

Units equipped with these marks of Shackleton were:

No.42 Squadron reformed at St. Eval on 28 June 1952; MR.Mk.2s began to replace MR.1As in January 1953 and this was completed in July 1954.

No.120 Squadron converted from Lancaster GR.3s in April 1951, moved to Aldergrove on 1 April 1952 and completed conversion to MR.2s in November 1956.

No.203 Squadron reformed at Ballykelly on 1 November 1958 from No.240 Squadron and flew three MR.1As alongside MR.3s until September 1959.

No.204 Squadron had some MR.1As operating with MR.2s between April 1958 and February 1960.

No.205 Squadron began to receive Shackletons in May 1958 to supplement Sunderlands and flew MR.1As until November 1962.

No.206 Squadron reformed at St. Eval on 27 September 1952 and flew MR.1As until April 1958, having moved to St. Mawgan on 14 January 1958.

No.220 Squadron reformed at Kinloss on 24 September 1951, moving to St. Eval on 14 November 1951. MR.1As were flown until November 1958.

No.224 Squadron converted from Halifax Met.6s at Gibraltar in August 1951, the last MR.1A leaving in October 1954.

No.240 Squadron reformed at St. Eval on 1 May 1952, moving to Ballykelly during the following month. It was re-numbered 203 Squadron on 1 November 1958.

No.269 Squadron reformed at Gibraltar on 3 January 1952 and moved to Ballykelly in March. On 1 December 1958, it was re-numbered 210 Squadron and gave up its remaining MR.1As at the same time.

No.236 OCU at Kinloss received Shackleton MR.1s in June 1951 and when redesignated the Maritime Operational Training Unit on 1 October 1956 passed on fifteen of its aircraft. MR.1As were gradually replaced by T.4s and the unit moved to St. Mawgan in July 1965. The last T.4s were replaced by T.2s in July 1968.

The Air-Sea Warfare Development Unit at St. Mawgan used Shackletons alongside other types between June 1951 and August 1960, moving to Ballykelly on 1 September 1958.

The Joint Anti-Submarine School at Londonderry had the services of a flight of Shackletons at Ballykelly for training purposes.

The Central Signals Development Establishment was allotted VP257 for trials at Wittering.

No.52 Squadron at Kuala Lumpur were allotted VP292 and WB829 between August 1959 and December 1960 while it was a Valetta unit in Malaya.

Service Use

VP254	Mkrs & AAEE/205	Crashed in sea 280 miles north of Labuan, 9.12.58
VP255	AAEE/269	SS 22.8.63
VP256	AAEE/224/269	Crashed on take-off, 26.10.54
VP257	CSDE/220	SS 28.2.63
VP258	120/AAEE/Cv. to T.4/MOTU	To Stansted Fire School 17.7.68
VP259	120/Cv. to T.4/MOTU	Crashed into Haldon Hill, near Elgin, Morayshire, 19.7.57
VP260	120	SS 29.5.63
VP261	120	Missing 25.6.52
VP262	120/MOTU	SS 22.8.63
VP263	RAE/206/220/206/MOTU	SS 22.8.63
VP264	236 OCU/RR/236 OCU/MOTU	SS 22.11.62
VP265	120/220/206/269/MOTU	SS 23.10.63
VP266	120/269/204/MOTU	SS 28.2.65
VP267	120/205	SOC 1.12.62
VP268	236 OCU	SS 23.10.63
VP281	ASWDU/236 OCU/MOTU	SS 28.2.63
VP282	ASWDU	SS 31.5.62
VP283	224	Crashed on approach to Gibraltar 12.8.51
VP284	236 OCU/204/269	SS 28.2.63
VP285	236 OCU/ASWDU/MOTU	SS 28.2.63
VP286	236 OCU	Missing 8.10.52
VP287	224/269/240	SS 23.10.63
VP288	ASWDU/220/205	SS 5.8.64
VP289	224/269/206/269/MOTU	To 7730M 6.9.61
VP290	224/269/W.Freugh/236 OCU/MOTU	SS 22.11.62
VP291	224/269/205	SS 5.8.64
VP292	236 OCU/MOTU/52	SOC 28.4.61
VP293	236 OCU/224/42/206/Cv.to T.4/MOTU	To MoA 6.1.64 for RAE
VP294	220/236 OCU/224/220/206/269/MOTU/205/MOTU/205	Force-landed at Gan 15.5.62 and DBR
WB818	St. Mawgan/269/205	SOC 28.4.61
WB819	224/269/236 OCU/Cv.to T.4/MOTU/SF Kinloss/MOTU	To Stansted Fire School 14.6.68
WB820	224/269/Cv.to T.4/MOTU	SOC 1.6.67
WB821	220/236 OCU/206/MOTU	SS 31.5.62
WB822	236 OCU/MOTU/Cv.to T.4/Kinloss/MOTU	SOC 2.4.68
WB823	220/206/240	SS 29.5.63
WB824	220/206/240/236 OCU/MOTU	SS 31.5.62
WB825	220/205	SOC 8.8.61
WB826	236 OCU/206/240/269/204/MOTU/Cv.to T.4/MOTU	SS 20.2.68
WB827	236 OCU/205	SS 5.8.64

WB828	220/204/240/120/206/240/204	SS 22.11.62
WB829	236 OCU/MOTU/52	SS 28.4.61
WB830	236 OCU/MOTU	SS 31.5.62
WB831	220/236 OCU/220/Cv.to T.4/MOTU	Crashed on take-off at St. Mawgan, 17.5.67 and DBR
WB832	224/206/Cv. to T.4/MOTU/Kinloss	To 7885M 25.7.65
WB833	Conv. to MR.2/ASWDU/210/204	Crashed on Mull of Kintyre 19.4.68
WB834	236 OCU/205	SOC 8.8.61
WB835	AAEE/120/240/269/MOTU	SS 23.10.63
WB836	224/206/220/205	SS 5.8.64
WB837	220/Cv.to T.4/MOTU	SS 3.2.69
WB844	224/120/Cv.to T.4/MOTU	To 8028M 30.7.68
WB845	236 OCU/Cv.to T.4/MOTU	SOC ~~To 8020M~~ 12.6.68
WB846	224/120	To 7561M 3.58 at MOTU
WB847	224/236 OCU/MOTU/Cv.to T.4/MOTU	SS 12.3.69 — to 8020M
WB848	236 OCU/MOTU/240	SS 23.10.63
WB849	JASS/120/MOTU/Cv.to T.4/MOTU	SOC 30.7.68
WB850	JASS/240/204	SS 29.5.63
WB851	JASS/269/220/206/269/204/ASWDU	SS 28.2.63
WB852	224/269	SS 29.5.63
WB853	224/120/MOTU	SS 29.5.63
WB854	224/120/MOTU/205	SOC 27.11.62
WB855	236 OCU/MOTU/269	SS 28.2.63
WB956	ASWDU/224/JASS/240/204	SS 19.12.60
WB957	240/204	SS 31.5.62
WB958	240/236 OCU/AAEE/MOTU/Cv.to T.4/MOTU	SS 3.2.69
WB859	240/203	SS 29.5.63
WB860	240/203/204	SS 28.2.63
WB861	240	Crashed on landing, Ballykelly 6.9.57
WG507	240/203	SS 31.5.62
WG508	240/206/220	SS 29.5.63
WG509	240	SS 29.5.63
WG510	42/206	SS 28.2.63
WG511	42/120/Cv.to T.4/MOTU/Kinloss/MOTU	SOC 3.8.66
WG525	42/220/205	SS 5.8.64
WG526	42/206/220/MOTU/ASWDU	SOC 11.7.61
WG527	42/206/Cv.to T.4/Kinloss/MOTU	SS 12.3.69
WG528	42/206	SS 29.5.63
WG529	42/206/240/269	SOC 25.11.63

Abbreviations: AAEE: Aeroplane and Armament Experimental Establishment; ASWDU: Air-Sea Warfare Development Unit; JASS: Joint Anti-Submarine School; MOTU: Maritime Operational Training Unit; CSDE: Central Signals Development Unit; OCU: Operational Conversion Unit; RR: Rolls-Royce; SOC: Struck off charge; SS: Sold as scrap.

Unit Allocations:

No.42 Squadron:

VP293 (A-F)	April 1954 - July 1954	WG510(A-F)	July 1952 - Mar 1954
WG511	June 1952 - Feb 1953	WG525(A-B)	June 1952 - July 1954
WG526(A-C)	June 1952 - July 1954	WG527	July 1952 - July 1954
WG528(A-G)	July 1952 - Oct 1952	WG529	Aug 1952 - Nov 1953

No.120 Squadron:

VP258(A-C)	April 1951	- May 1955	VP259(A-B)	April 1951	- April 1955
VP260(A-A)	Mar 1951	- Oct 1955	VP261(A-J)	May 1951	- June 1952
VP262(A-D)	April 1951	- Oct 1955	VP265	May 1951	- May 1953
VP266(A-G)	May 1951	- May 1953	VP267(A-H)	May 1951	- May 1953
WB828 (C)	Sep 1955	- Nov 1956	WB835(A-A)	Aug 1956	- Nov 1956
WB844	Aug 1954	- June 1956	WB846	Aug 1954	- Oct 1956
WB849	April 1955	- Oct 1956	WB853	Oct 1954	- Oct 1956
WB854	Sep 1954	- Oct 1956	WG511	Feb 1953	- April 1955

No.203 Squadron:

WB859	Nov 1958	- Sep 1959	WB860	Nov 1958	- Jan 1959
WG507	Nov 1958	- Feb 1959			

No.204 Squadron:

VP266	May 1958	- Oct 1958	VP284	Feb 1954	- Aug 1954
WB826	Nov 1958	- June 1959	WB828	Jan 1954	- Aug 1954
WB828 (Ret'd)	June 1958	- Feb 1960	WB850	June 1958	- Dec 1958
WB851	Nov 1958	- Nov 1959	WB856	June 1958	- Feb 1960
WB857	April 1958	- Nov 1959	WB860	Jan 1959	- Mar 1960

No.205 Squadron:

VP254 (B)	May 1958	- Dec 1958	VP267 (L)	Oct 1960	- Dec 1962
VP288 (K)	Sep 1958	- July 1962	VP291 (F)	Nov 1958	- April 1962
VP294 (N)	July 1959	- Nov 1959	VP294(Ret'd)	Sep 1960	- May 1962
WB818 (A)	Nov 1959	- Jan 1961	WB825 (H)	Dec 1958	- Mar 1961
WB827 (O)	June 1958	- June 1962	WB834 (G)	Dec 1959	- April 1961
WB836 (D)	Aug 1958	- Aug 1962	WB854 (C)	July 1958	- Nov 1962
WG525 (E)	Sep 1958	- May 1962			

No.206 Squadron:

VP263	Oct 1952	- May 1954	VP263(Ret'd)	Jan 1958	- Mar 1958
VP265	Jan 1958	- Feb 1958	VP289	July 1956	- Jan 1958
VP293 (A)	July 1954	- Aug 1956	VP294	Jan 1958	- Mar 1958
WB821	July 1956	- Sep 1957	WB823	Nov 1956	- Dec 1956
WB824	Sep 1953	- Jan 1954	WB826	July 1956	- Dec 1957
WB828	Nov 1956	- Dec 1957	WB832(B-W)	Oct 1952	- Aug 1956
WB836(B-T)	Oct 1952	- Jan 1957	WB851	Jan 1958	- April 1958
WG508(B-X)	Oct 1952	- July 1954	WG510(B-B)	May 1954	- Nov 1957
WG526(B-C)	July 1954	- Nov 1956	WG527	July 1954	- June 1956
WG528(B-U)	Oct 1952	- Feb 1958	WG529(B-F)	May 1954	- Dec 1957

No.220 Squadron:

VP257(T-P)	Nov 1951	- Nov 1952	VP257(Ret'd)	Sep 1953	- Dec 1957
VP263(T-D)	July 1954	- Dec 1955	VP263(Ret'd)	June 1956	- Jan 1958
VP265	May 1957	- Jan 1958	VP288 (R)	Sep 1954	- Sep 1957
VP294	Sep 1951	- Sep 1951	VP294(Ret'd)	June 1957	- Jan 1958
WB821(T-L)	Oct 1951	- Apr 1954	WB823(T-N)	Oct 1951	- Nov 1956
WB824(T-O)	Oct 1951	- June 1953	WB825(T-M)	Oct 1951	- Oct 1957
WB828(T-K)	Jan 1952	- May 1953	WB831(T-Q)	Dec 1951	- Mar 1956
WB836	Mar 1957	- Apr 1957	WB837(T-S)	Dec 1951	- Mar 1956
WB851	Aug 1957	- Jan 1958	WG508	July 1954	- Mar 1958
WG525	July 1954	- Dec 1956	WG526	Nov 1956	- Oct 1957

No.224 Squadron:

VP256 (A)	Aug 1951	- Feb 1952	VP283 (-)	July 1951	- Aug 1951
VP287	July 1951	- Feb 1952	VP289	Aug 1951	- Jan 1952
VP290(B-D)	Sep 1951	- Jan 1952	VP291(B-C)	Sep 1951	- Feb 1952
VP293	Jan 1953	- May 1953	VP294	Jan 1953	- May 1953
WB819	Oct 1951	- Jan 1952	WB820	Sep 1951	- Jan 1952
WB832	Jan 1952	- Oct 1952	WB836	Jan 1952	- Oct 1952
WB844(B-M)	Jan 1952	- Aug 1954	WB846(B-P)	Feb 1952	- Aug 1954
WB847	Feb 1952	- June 1953	WB852	Apr 1952	- Oct 1954
WB853	Apr 1952	- Aug 1954	WB854(B-S)	Apr 1952	- Sep 1954
WB856	Sep 1953	- Aug 1954			

No.240 Squadron:

VP287 (B)	June 1958	- Oct 1958	WB823	Feb 1958	- Sep 1958
WB824	Jan 1954	- Sep 1955	WB826	Dec 1957	- June 1958
WB828	Aug 1954	- Jan 1955	WB828(Ret'd)	Aug 1955	- Sep 1955
WB835	Nov 1956	- Jan 1957	WB848	Sep 1957	- Jan 1958
WB850	Dec 1954	- June 1958	WB856	Jan 1955	- Aug 1956
WB857	Apr 1952	- Jan 1957	WB858(L-A)	May 1952	- May 1953
WB859(L-B)	May 1952	- Nov 1958	WB860(L-C)	May 1952	- Nov 1958
WB861(L-D)	May 1952	- Sep 1957	WG507(L-E)	May 1952	- Nov 1958
WG508(L-F)	June 1952	- Oct 1952	WG509(L-G)	June 1952	- Nov 1958
WG529	Dec 1957	- Dec 1957			

No.269 Squadron:

VP255(B-D)			VP256(B-A)	Feb 1952	- Oct 1954
VP265	Apr 1958	- Nov 1958	VP266(B-A)	Dec 1954	- May 1958
VP284(B-E/F)	Aug 1954	- Aug 1958	VP287(B-B)	Feb 1952	- June 1958
VP289 (J)	Jan 1952	- Feb 1952	VP289(Ret'd)	July 1952	- Aug 1953
VP289(Ret'd)	Jan 1958	- Nov 1958	VP290 (D)	Jan 1952	- May 1953
VP291(B-F)	Feb 1952	- June 1957	VP294	Apr 1958	- Nov 1958
WB818(B-G)	Jan 1952	- Aug 1957	WB819 (M)	Jan 1952	- Sep 1953
WB820(B-S)	Jan 1952	- Aug 1958	WB826	June 1958	- Nov 1958
WB835	July 1957	- Dec 1958	WB851	Sep 1954	- Sep 1955
WB851(Ret'd)	May 1958	- Nov 1958	WB852	Oct 1954	- Jan 1958
WB855	Aug 1957	- Nov 1957	WG529	Dec 1957	- Aug 1958

Air-Sea Warfare Development Unit:

VP281	June 1951	- Apr 1956	VP282	June 1951	- Aug 1960
VP285	July 1956	- May 1958	VP288	Jan 1952	- Feb 1954
WB856	Apr 1952	- Sep 1953	WG526	June 1961	- July 1961
WB851	Nov 1959	- Mar 1960			

No.236 Operational Conversion Unit:

VP264(C-Z)	June 1951	- Mar 1953	VP264(Ret'd)	Feb 1955	- Oct 1956
VP268(C-Y)	June 1951	- Oct 1956	VP281(C-Z)	Apr 1956	- Oct 1956
VP284(C-X)	June 1951	- Jan 1953	VP285	July 1951	- Aug 1953
VP286	July 1951	- Oct 1952	VP290(C-T)	Mar 1956	- Oct 1956
VP292(C-S)	Oct 1951	- Oct 1953	VP292(Ret'd)	May 1953	- Oct 1956
VP293	Sep 1951	- Jan 1953	VP294(C-T)	Sep 1951	- Jan 1953
WB819	Jan 1955	- Jan 1955	WB821	Apr 1954	- Dec 1955
WB822	Dec 1951	- Oct 1956	WB824	Sep 1955	- Oct 1956
WB826	Nov 1951	- Mar 1953	WB827	Apr 1951	- Oct 1956
WB829	Dec 1951	- Oct 1953	WB829(Ret'd)	May 1954	- Oct 1956
WB830	Jan 1952	- Oct 1956	WB831	July 1955	- Aug 1955
WB834(C-L)	Jan 1952	- Oct 1956	WB845	Mar 1952	- Aug 1956
WB847(C-J)	May 1954	- Oct 1956	WB848(C-O)	Feb 1952	- Oct 1956
WB855(C-H)	Apr 1952	- Oct 1956	WB858(C-M)	Feb 1955	- Oct 1956

Maritime Operational Training Unit:

VP258*(D)(N)	Jan 1959	- July 1968	VP259*(Q)	July 1957	- Jan 1958
VP262 (P)	Oct 1956	- Sep 1958	VP263 (W)	June 1959	- Sep 1961
VP264 (Z)	Oct 1956	- Mar 1960	VP265 (Y)	Nov 1958	- Oct 1961
VP266	Oct 1958	- May 1960	VP268	Oct 1956	- May 1958
VP281 (Z)	Oct 1956	- May 1960	VP285	Apr 1958	- Mar 1960
VP289	Nov 1958	- Oct 1959	VP290 (V)	Oct 1956	- Oct 1960
VP292 (S)	Oct 1956	- Sep 1957	VP293*	Mar 1960	- Apr 1962
VP294	Nov 1958	- July 1959	VP294(Ret'd)	Sep 1960	- Sep 1960
WB819*(V)	July 1957	- Aug 1964	VP819*(Ret'd)	Apr 1965	- June 1968
WB820*(S)	Nov 1961	- Dec 1966	WB821	Sep 1959	- Feb 1961
WB822 (T)	Oct 1956	- Dec 1957	WB822*(Ret'd)	Jan 1965	- Apr 1968
WB824	Oct 1956	- June 1959	WB826	June 1959	- July 1960
WB826*(Y)	Sep 1961	- Aug 1967	WB827	Oct 1956	- Feb 1957
WB829	Oct 1956	- July 1957	WB830	Oct 1956	- Mar 1960
WB831*(S)(U)	Nov 1957	- May 1967	WB832*(U)	Apr 1958	- Jan 1961
WB834 (L)	Oct 1956	- Sep 1957	WB835	Dec 1958	- July 1959
WB835 (Ret'd)	May 1960	- Dec 1961	WB837*(W)(H)	Aug 1957	- May 1968
WB844*(X)(R)	Jan 1958	- July 1968	WB845 (X)	Mar 1958	- June 1968
WB846 (G)(B)	Oct 1956	- Mar 1958	WB847 (N)	Oct 1956	- Apr 1958
WB847*(N)(Ret'd)	Jan 1962	- July 1968	WB848 (O)	Oct 1956	- Sep 1957
WB849 (W)	Oct 1956	- Apr 1960	WB849*(Z)(O)	Oct 1961	- July 1968
WB853	Oct 1956	- Aug 1958	WB854 (Q)	Oct 1956	- Feb 1957
WB855	Oct 1956	- Aug 1957	WB858 (M)	Oct 1959	- Aug 1960
WB858*(Ret'd)	Apr 1964	- July 1968	WG511*(O)	Aug 1957	- Aug 1964
WG511*(O)	Oct 1964	- Aug 1966	WG526	Sep 1959	- June 1961
WG527*(K)(P)	May 1962	- Apr 1968			

*T.4s

Joint Anti-Submarine School:

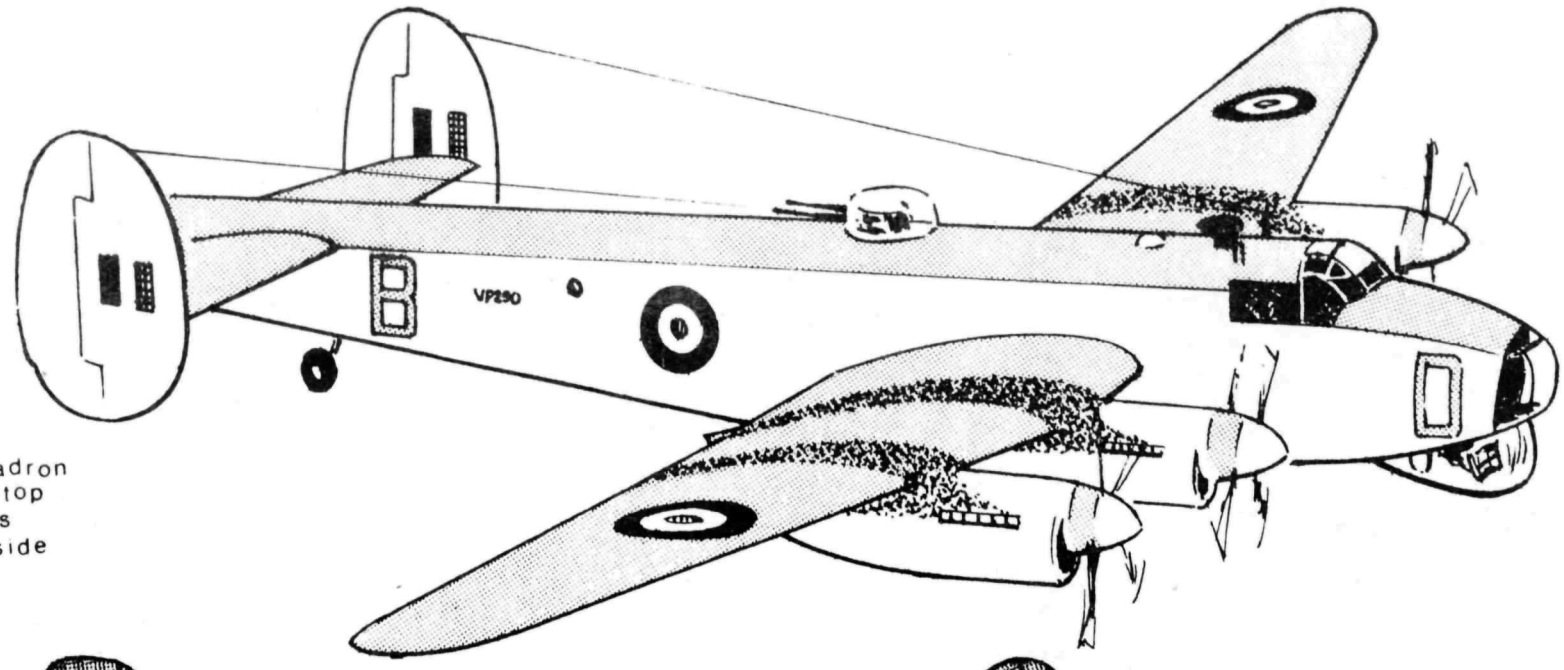
WB849(G-W)	Mar 1952	- Apr 1955	WB850	Mar 1952	- Dec 1954
WB851(G-V)	Mar 1952	- Sep 1954	WB856	Sep 1954	- Jan 1955

No.52 Squadron:

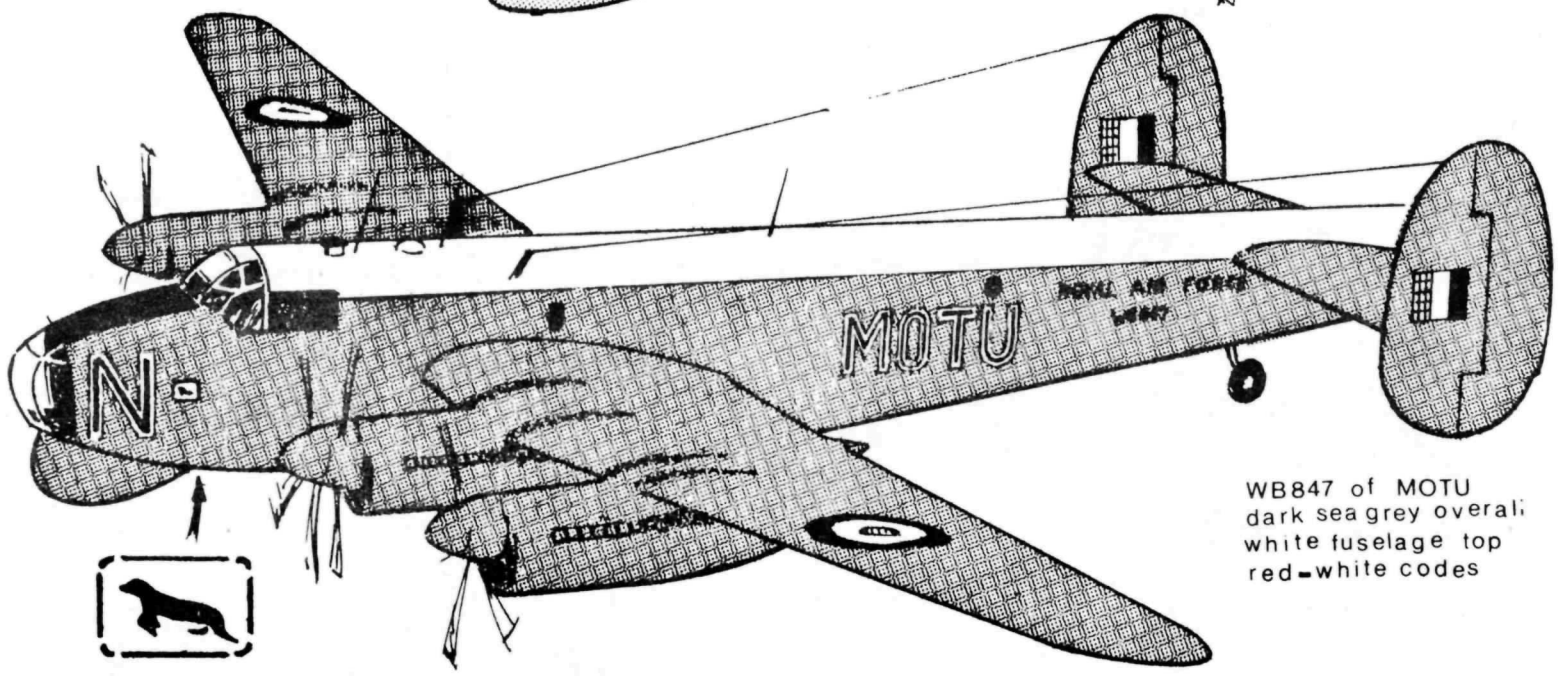
VP292	Aug 1959	- Jan 1961	WB829	Aug 1959	- Dec 1960

Central Signals Development Establishment:

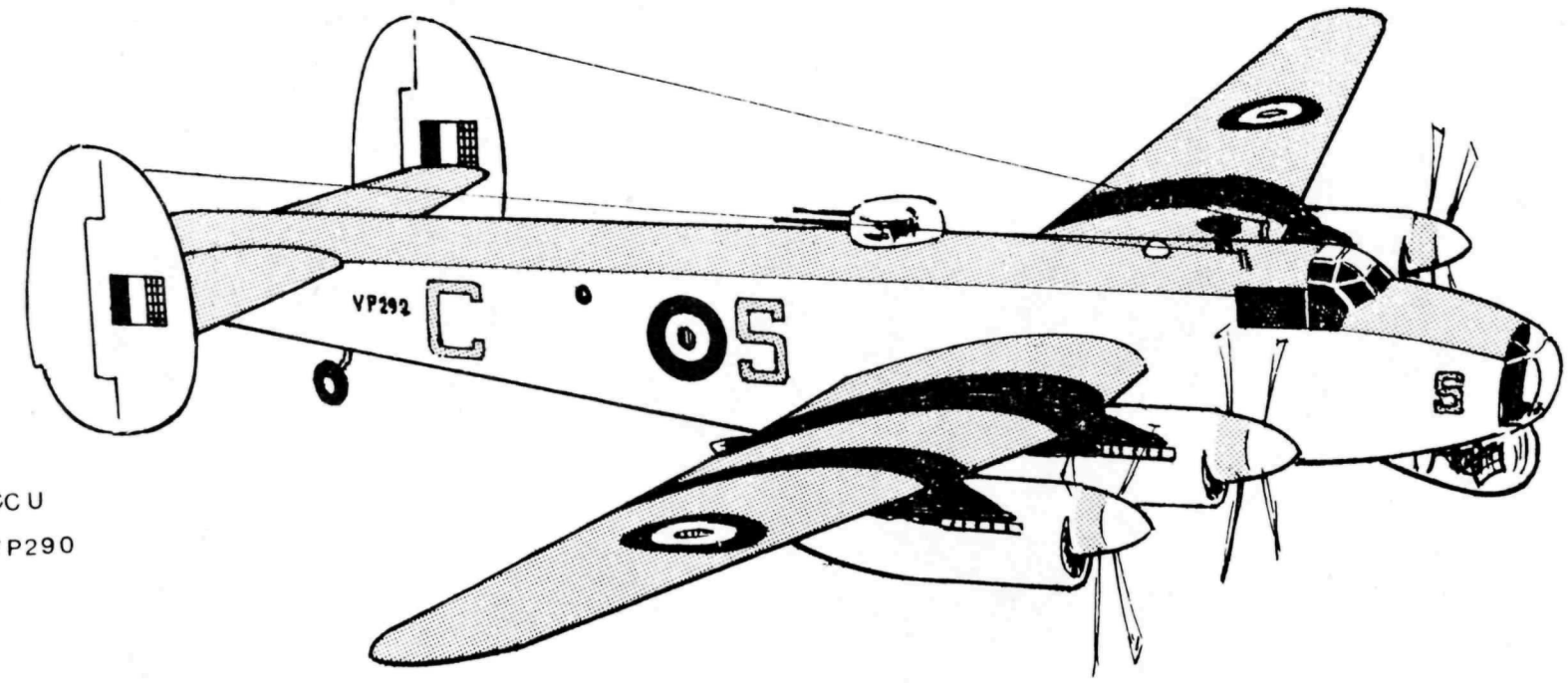
VP257	Nov 1950	- Apr 1951



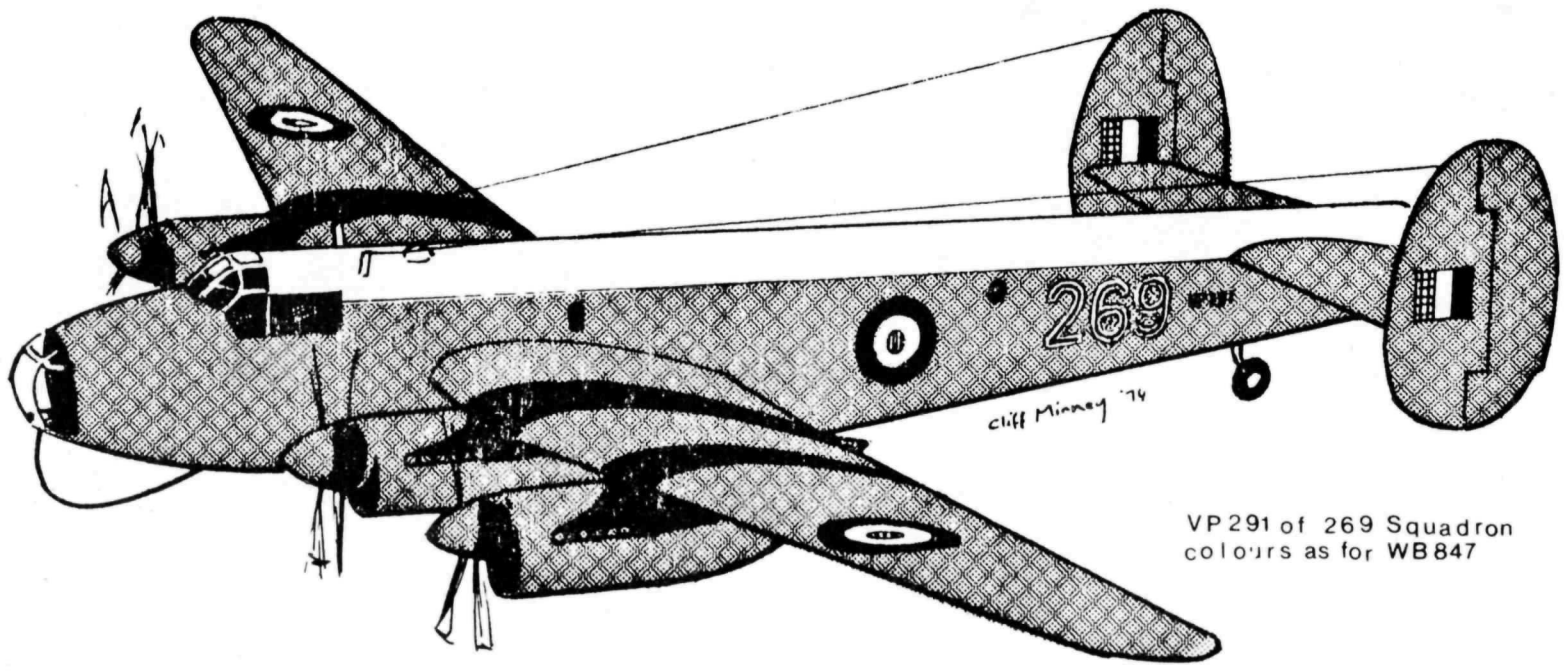
VP290 of 224 Squadron
Medium sea grey top
matt white sides
gloss white underside
grey codes



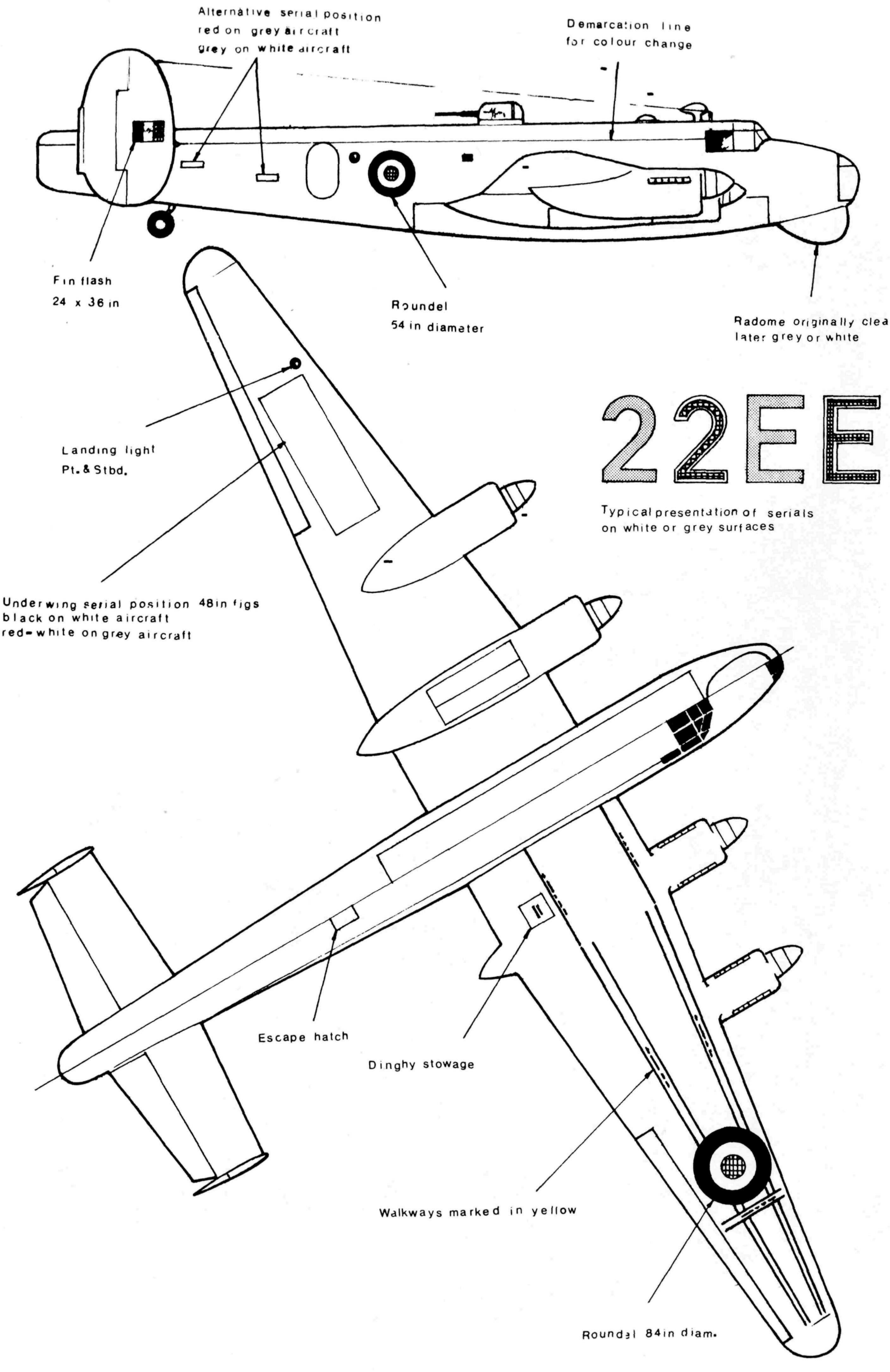
WB847 of MOTU
dark sea grey overall
white fuselage top
red-white codes



VP292 of 236 OCU
colours as for VP290



VP291 of 269 Squadron
colours as for WB847


Alternative serial position
red on grey aircraft
grey on white aircraft
Demarcation line
for colour change
Fin flash
24 x 36 in
Roundel
54 in diameter
Radome originally clear
later grey or white
Landing light
Pt. & Stbd.
Underwing serial position 48in figs
black on white aircraft
red-white on grey aircraft
22EE
Typical presentation of serials
on white or grey surfaces
Escape hatch
Dinghy stowage
Walkways marked in yellow
Roundel 84in diam.

Shackleton MR.1s and T.4s

A considerable number of amendments and addenda have come in from the item on Shackletons in Issue 01, mainly from Peter Howard,George Jenks and Eric Harlin. These are listed hereunder in the order used in the original pages.

Units

The Central Signals Development Establishment should have read Central Servicing Development Establishment. The mystery of No.52 Squadron's allocations remains unsolved. Both Shackletons served with No.205 Squadron so it is possible that No.52 merely provided ferry crews. It is possible, but unlikely, that the notation of the movement cards was a clerical error. CAPMF was the Centralised Aircraft Procurement and Maintenance Flight and was present in small packages at St.Mawgan, St.Eval and Ballykelly. It appears to have originated at St.Eval in 1953/54 when a measure of central servicing was introduced.

Service Use

The tables should be amended as follows against each serial number mentioned. All others remain as shown. WB956/8 should, of course, have read WB856/8.

VP259. Date of crash was 10.1.58	VP260 SOC 29.9.63
VP262 120/236 OCU/MOTU	VP263 RAE/206/220/206/204/NOTU
VP268 236 OCU/MOTU	VP292 add 205 at end
WB824 Delete 240	WB828 delete 2nd unit (204)
WB830 Was at Rolls-Royce for periods while with 236 OCU	
WB844 Became 8301M	WB845 Initially with 224. SS 12.3.69
WB847 Delete 224; To 8020M 5.6.68	WB849 To 8026M 30.7.68
WB850 Delete 204	WB852 Add MOTU at end
WB856 Delete 204	WB858 Add AAEE after Cv.to T.4
WG508 Add 206 at end	

Abbreviations: add DBR: Damaged beyond repair

Unit Allocations

No.42 Squadron: WG510 to April 1954; WG511 (A-A) to May 1956; WG527 (A-D); WG529 (A-H) to May 1954;

No.120 Squadron: VP265 (A-F); WB844 (A-F); WB846 (A-G); WB849 (A-B); WB853 (A-E); WB854 (A-H); WG511 (A-J).

No.203 Squadron: WB859 to Feb 1960

No.204 Squadron: WB851 (C); WB860 (L)

No.205 Squadron: VP288 from Sep 1959

No.206 Squadron: VP263 (G) (B-U); VP293 (A) (B-A); VP294 to April 1958; WB821 (D) to Feb 1959; WB823 to Feb 1958; WB826 (G); WB832 add (B-G) (G); WB836 (B-H) to Mar 1957; WB851 to May 1958; WG508 (B-E); WG510 (B-U) (B); WG526 (C); WG527 (E) to July 1957; WG528 (B-E) (B) + B-Y not B-U?; WG529 (B-D) (F)

No.220 Squadron: VP257 (T-K) (K) to Dec 1957; VP263 (T-O) - T-D error?; VP288 (T-R) to Nov 1958; VP294 (P); WB821 (L); WB823 (N); WB825 (M); WB828 (K); WB836 to July 1958; WB837 (T-B); WG508 (T-L); WG525 (T-P); WB526 to Mar 1959

No.224 Squadron: VP256 (B-A); VP287 (B-B); VP289 (B-J); WB819 (B-H); WB820 (B-F); WB832 (B-K); WB836 (B-L); WB852 (B-T); WB853 (B-E) (B-R); WB856 (B-V); WB845 (B-O)

No.240 Squadron: WB835 to July 1957; WB850 (L-J) (J); WB856 to Feb 1960; WB857 (L-T) (T) to April 1958; WB859 (B); WB860 (L-L) (C); WG507 (L-M) (E); WG509 (L-N) (G);

No.269 Squadron: VP255 Dec 1953 to Jan 1958; VP289 (B-J) to Aug 1953; VP290 (B-D); VP291 (B-C) (C) to Oct 1958; VP294 (B-E); WB818 (G) to Nov 1958; WB819 (B-H); WB820 (B-F) to Sep 1960; WB851 (B-H); WB852 (B-R);

ASWDU: VP281 (F-B); VP282 (F-K); VP285 to Jan 1958; VP288 (F-C); WB856 (F-D); WB851 (V)

No.236 OCU: VP285 (C-Q) (C-W); VP286 (C-V); VP290 (C-V); VP293 (C-U); WB819 (C-R); WB821 (C-Z); WB822 (C-N); WB824 (C-W); WB826 (C-K) (C-P); WB827 (C-R); WB829 (C-O); WB830 (C-M); WB831 (C-S); WB834 (C-F); WB845 (C-X); WB848 (C-K); WB858 (C-U)

MOTU: VP258 (P); VP264 (T); VP265 (F); VP268 (Y); VP285 (Q); VP289 (Y); VP294 (U); WB821 (Q); WB822 (N); WB826 (P); WB827 (R); WB829 (O); WB830 (M); WB832 (G); WB835 (M) (E); WB844 (L); WB847 (Z) (B); WB849 (Z) (O); WB853 (F) (M); WB855 (H); WB858 (U); WG526 (T)

JASS: WB850 (G-X)

The above amendments reflect the differences which sometimes appear between the aircraft movement records kept by the Air Ministry/Ministry of Defence and the actual periods during which aircraft remained with units. This was mainly a post-war situation due to the increasing complexity of the aircraft which required more sophisticated programming of overhauls, modifications, etc.

It is also to be noted that the designation MR.1A was never recognised by the RAF which referred to these aircraft throughout as MR.1s until withdrawal from service.

Blenheims

Some additional information on L-serial Blenheims listed in Issue 1/75 has come to light:

L1111 was abandoned at night near Odiham, 8.9.40
L1113 was abandoned in air near Ewhurst, Sussex 12.10.40
L1209 crashed on take-off, Upper Heyford 7.3.40
L1214 crashed while overshooting Bicester 7.1.40
L1241 Date of accident was 1.8.39
L1272 dived out of cloud into ground at Kirkby Malzeard, Yorkshire 23.10.40
L1296 crashed on take-off, Andover 31.5.40
L1308 stalled on night approach to Aston Down 1.8.40
L1381 Units should read 84/113

Clevelands

Some doubts about the service record of Curtiss SBC-4 Helldivers in the RAF have been raised by statements in various publications that the five aircraft received and named "Cleveland" were used only as ground instruction aircraft. To keep the record straight: AS467 was delivered 28.8.40 and remained at Nos. 15 and 8 MUs until delivered to No.2 School of Technical Training on 2.11.41 becoming 2668M. SOC 31.3.44. AS468 was delivered 16.8.40 to 8 MU. Served with No.24 Sqn. from 5.10.40 until a bomb landed on A Flt hangar at Hendon on the night of 7/8 October 1940 and wrecked this Cleveland (along with 2 Tiger Moths, one Q-6, 1 Vega Gull, 2 Magisters, 1 Envoy, 2 Rocs, 2 Mentors, 1 Hind and a civil Vega Gull G-AFIE). AS469, delived 16.8.40 to 8 MU was sent to 24 Sqn as a replacement on 18.10.40 and left on 19.12.40. Allotted 2669M at 2 STT on 31.12.41 and SOC 31.3.44. AS470 was delivered to 8 MU on 29.8.40 and became 2785M ar 2 STT on 2.11.41. SOC 31.3.44. AS471, delivered to 8 MU on 8.4.41, Allotted to RAF Heston 5.8.41, 60 OTU 26.3.42, HQ Comm Flt Aston Down 31.12.42 and 9 Gp Comm Flt 29.4.43. To 2 STT 16.2.44 and broken up 16.8.44

No.1 ANTI-AIRCRAFT COOPERATION UNIT, ROYAL AIR FORCE

No.1 Anti-Aircraft Cooperation Unit traces its history back to the Night Flying Flight which was formed in 1923 at Biggin Hill with six Vimys. In 1927 these were replaced by Horsleys and the Flight also flew a Bison in 1928/29. The duties of the unit consisted of giving practice to anti-aircraft batteries and searchlights. Each summer from May 1929, the Flight moved to the practice camp at Weston Zoyland, Somerset, where it provided target-towing aircraft for the AA practice ranges at Watchet and bomber squadrons in camp at Weston Zoyland.

In 1930, the Night Flying Flight was redesignated the Anti-Aircraft Cooperation Flight, later the AAC Unit. In April 1934, Wallaces replaced Horsleys and with the expansion of the RAF the AACU was divided into A and B Flights which spent the summer at Weston Zoyland and Weybourne, Norfolk, respectively. On 10.2.37, the AACU became No.1 AACU. C Flight was formed on 15.3.37 for duties at Bircham Newton while A Flight went to Weston Zoyland and B Flight to Manorbier in Pembrokeshire for the summer. On 27.7.37 a Queen Bee Flight was sent to Watchet. This pattern continued until the outbreak of World War Two, after which No.1 AACU's flights proliferated. Headquarters of No.1 AACU was transferred to No.70 Group at Farnborough on 1.12.40.

A Flight After training pilots on its newly-acquired Henleys, A Flight moved to Weston Zoyland on 28.3.39 but its season was cut short by the approach of war and it moved to Watton on 28.8.39 with its six Henleys equally divided between Watton, Wattisham and West Raynham. On 3.9.39 the flight returned to Weston Zoyland where it acquired Defiants in July 1942. On 1.10.42, it became 1600 Flight.
Representative Aircraft: Henley: L3252,L3314,L3424; Defiant: DR865, DR867; Lysander: R2585, T1439; Tiger Moth: L6923.

B Flight This flight reformed at Farnborough on 22.3.39 with Henleys and moved on 14.4.39 to re-open Carew Cheriton after its long period of disuse since Milton airship station closed there in 1919. On 2.10.41 it moved to Aberporth and on 1.10.42 became No.1607 Flight.
Rep.Aircraft: Henley: L3275, L3318, L3431; Battle: N2050; Tiger Moth: T8207.

C Flight C Flight moved from Bircham Newton to Weston Zoyland on 3.9.39 with its Henleys, was transferred to Penrhos on 4.12.39 and on 26.6.41 to Towyn, becoming No.1605 Flight on 1.10.42
Rep.Aircraft: Henley: L3277, L3290, L3312, L3435

D Flight Formed at Farnborough on 10.4.39, D Flight moved to Bircham Newton on 28.4.39 with Henleys. In September 1939 it transferred to Cleave, Cornwall, where it remained until redesignated No.1602 Flight on 1.10.42.
Rep.Aircraft: Henley: L3255, L3282, L3426, L3436; Lysander: R2587;Magister:P2408.

E Flight This flight moved to West Freugh on 27.3.39 with Henleys to tow targets for the ranges on Burrow Head. Defiants were added in October 1942 and the flight became part of No.289 Squadron on 16.11.42.
Rep.Aircraft: Henley: L3250, L3288, L3360; Defiant: DR876, DR877; Tiger Moth: T8178

F Flight Arriving at Squires Gate on 28.4.39, F Flight's Henleys towed targets for Cark until it moved there on 7.1.42, becoming No.1614 Flight on 1.10.42.
Rep.Aircraft: Henley: L3287, L3321, L3370; Lysander: R2588; Tiger Moth: N5450

G Flight G Flight moved to Usworth on 1.2.39 and to Cleave on 19.5.39. Equipped with Wallaces, it was December 1940 before the flight received Henleys and17.10.41 before it ceased operations with Wallaces. On 1.10.42, G Flight became No.1603 Flight.

H Flight H Flight moved from Biggin Hill to Gosport on 20.9.39 and was attached to No.2 AACU. Equipped with Battles for cooperation with ADEE, H Flight returned to No.1 AACU on 11.10.40 at Christchurch and disbanded on 30.6.41.
Rep.Aircraft: Battle: K9230, N2118, N2124; Blenheim: L6683; Lysander: T1439, T1463

Reformed at Farnborough on 1.1.41, H Flight moved to Martlesham Heath next day with Henleys. Defiants were received in June 1942 and on 1.10.42 the flight became No.1616 Flight.
Rep.Aircraft: Henley: L3295, L3317; Defiant: DR866, DR868; Tiger Moth: DE164

J Flight This flight was formed at Farnborough on 1.12.39 and received Henleys in February 1940 before moving to Penrhos on 16.2.40. On 1.1.41 a move was made to Aberffraw (which was renamed Bodorgan on 15.5.41) and the flight became No.1606 Flight on 1.10.42.
Rep.Aircraft: Henley: L3301, L3352, L3417; Magister: L8266.

K Flight Moving to Cleave from Farnborough on 16.8.40, K Flight flew its Henleys to Bircham Newton on 6.9.40, transferring to Langham on 6.12.41 where it became No.1611 Flight on 1.10.42.
Rep.Aircraft: Henley: L3298, L3341, L3363; Tiger Moth: N6719, W7954; Magister: T9750

L Flight Formed at Farnborough on 26.3.40, L Flight moved to Carew Cheriton on 5.4.40 to receive Henleys. On 29.10.40, it moved to Aberporth and became No.1608 Flight on 1.10.42.
Rep.Aircraft: Henley: L3249, L3357; Wallace: K6050; Tiger Moth: R5013

M Flight Apparently formed on 1.1.41 at Bircham Newton with Henleys, M Flight moved to Langham on 6.12.41. It received Defiants in August 1942 and became No.1612 Flight on 1.10.42.
Rep.Aircraft: Henley: L3265, L3298, L3353; Defiant: DR875, DR876, DR878; Tiger Moth: DE166; Magister: T9913

N Flight Apparently formed on 23.2.42 at Thornaby with Henleys, N Flight moved to West Hartlepool on 17.4.42. On 1.10.42, the flight was redesignated No.1613 Flight.
Rep.Aircraft: Henley: L3259, L3338; Tiger Moth: T6809

O Flight This flight began operating at Cleave on 5.11.40 and was redesignated 1604 Flight on 1.10.42
Rep.Aircraft: Henley: L3253, L3437; Lysander: R2589; Magister: T9803

P Flight Formed at Weston Zoyland on 25.8.41. P Flight received Defiants in July 1942 and became No.1601 Flight on 1.10.42.
Rep.Aircraft: Henley: L3266, L3307; Defiant: DR865; Lysander: R2585

Q Flight Formed at Aberporth on 1.7.41, Q Flight became No.1609 Flight on 1.10.42

R Flight became part of No.289 Squadron on 16.11.42

S Flight became No.1617 Flight on 1.10.42

V Flight became No.1618 Flight on 1.10.42

X Flight became No.1621 Flight on 1.10.42

Z Flight became No.1620 Flight on 1.10.42

It is not known whether R, S, V, X and Z Flights were operational prior to redesignation. The operational records kept by individual flights were less than comprehensive and it is not always clear whether their opening dates were the actual date of formation or the date when they were told they must keep records on Form 540. Where flights are shown as formed, the date was that recorded as date of formation and where there is doubt this has been noted and is a subject for future research.

Additions to the L-serials

Some additional details of the fates of aircraft already listed have now come to hand.

Hurricanes

L1563 Crashed on landing, Andover 4.3.44
L1572 Caught fire in air and crashlanded at Detling 2.7.43
L1601 Collided in midair with V7081 and crashed near Tealing 4.7.43
L1721 Crashed in forced landing, Eye, Huntingdonshire 14.10.44
L1732 Hit HT cables at Torcross, Devon and crashed 14.5.43

Spitfires

L1005 Hit tree while forcelanding in bad weather at Pontesbury near Shrewsbury 7.12.41
L1014 Spun out of cloud into ground 2½ miles NNE of Abergavenny, Monmouth 8.3.42
L1030 Crashed in forced landing at Digby Farm, Bretton, Flint 1.10.41
L1034 Aircraft became uncontrollable and was abandoned; crashed at New Street, Beaumaris, Anglesey 13.3.41
L1038 Crashed in forced landing at Stormy Down, 29.12.41
L1041 Crashed on attempted overshoot at Llandow 28.9.41
L1042 Dived into ground in snowstorm, Picton, Chester 7.12.41
L1054 Crashed in sea after taking-off from Llandow 25.9.41
L1055 Crashed on take-off from Mount Farm 5.3.41
L1070 Crashed on landing, Hawarden 2.10.41
L1083 Aircraft entered cloud over high ground and never seen again 11.11.41

Blenheim

L1100 Hit hangar on take-off from West Raynham 3.1.41; flown by pilot of No.1 Ferry Pilots Pool, ATA

"Brass Knob"

The US Department of Defence Aircraft and Missiles Designations list a Lockheed EC-121Q as "EC-121D modified for "Brass Knob" program". Peter Marson would like to know what this operation was and where did it take place. Any ideas?

Percival Petrels

We have had a query about the Percival Q-6s built specially for the RAF as the Petrel. Eight serials, P5634 to P5641 were allotted and service was as follows starting in June 1939.

P5634	Northolt/Benson/Halton/Hendon	Sold 20.5.46and became G-AHTB
P5635	24 Sqn	SOC 17.10.40; damaged in raid?
P5636	24/PDU/Heston/15 Gp Comm Flt/Tiree	SOC 16.7.44
P5637	Ternhill/8 EFTS/Northolt/Heston/ ADGB Comm Flt/Northolt	Sold 29.4.46 and became G-AHOM
P5638	Gosport/Northolt/24 Sqn/Halton	To RN 6.6.43
P5639	Andover/61 OTU/Andover/Northolt/ Speke/MCS	Sold 20.5.46
P5640	Delivered 9.3.40 and shipped to Middle East	

Which leaves P5641 for which we have no details. Was it delivered and if so, to whom?

P5638 was a Coastal Command aircraft before transfer to 24 Sqn and was used by the AOC Coastal Command at Lee-on-Solent and later, Northwood, Middlesex.

No.24 Squadron lost a variety of aircraft in an air raid on the night of 7/8 October 1940 which wrecked, among others, a Q-6. This may have been P5635.

Feedback

No.1 Anti-Aircraft Cooperation Unit

In AM 2/75 there appeared a brief history of this far-flung organisation. Details of several flights of No.1 AACU were not recorded and Peter Corbell has provided the following additional facts.

R Flight: Arrived at Squires Gate from Farnborough by September 1941 and moved to Millom on 13 September 1941 and later to Cark on 7 January 1942. Became part of No.289 Squadron on 16 November 1942
Rep.Aircraft: Henley: L3262, L3295; Defiant: DR883 and DR866

S Flight: Formed at Farnborough and moved to Newtownards on 26 January 1942. Became No.1617 Flight on 1 October 1942.
Rep.Aircraft: Henley: L3268, L3400

T Flight: Formed at Farnborough on 21 January 1941 and moved to Weybourne on 3 February 1941; disbanded there on 29 April 1942.
Rep.Aircraft: Queen Bee: V4743, V4757

V Flight: Moved from Henlow to Cleave on 14 May 1939 and became No.1618 Flight on 1 October 1942.
Rep.Aircraft: Queen Bee: P5739, V4800

W Flight: Moved from Henlow to Burrow Head on 8 May 1939 and to nearby Kidsdale on 1 December 1939. Disbanded on 10 May 1942.
Rep.Aircraft: Queen Bee: L5890, L7756

X Flight: Moved from Henlow to Weybourne on 16 May 1939 and on to Watchet on 12 September 1939. Moved to Aberporth on 3 September 1940 and became No.1621 Flight on 1 October 1942.
Rep.Aircraft: Queen Bee: N1844, N1846; Wallace: K6019

Y Flight: Formed at Henlow on 15 May 1939 and moved immediately to Manorbier. Disbanded on 16 August 1942.
Rep.Aircraft: Queen Bee: P4767, P4761

Z Flight: Moved to Watchet from Farnborough on 13 May 1938. Reformed at Henlow on 3 October 1938 and returned to Watchet on 2 May 1939. Transferred to Bodorgan 9 September 1940 and became No.1620 Flight on 1 October 1942.
Rep.Aircraft: Queen Bee: K8651, K5102

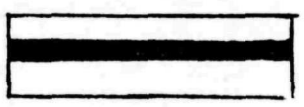
No.1 AACU Detachment, BEF: Formed at Farnborough with three Henleys (L3277, L3287 and L3253) and moved to Abbeville on 25 February 1940 to tow targets for RAF squadrons and AA guns with the British Expeditionary Force in France. Returned to Farnborough 19 March 1940.

The School of Naval Cooperation

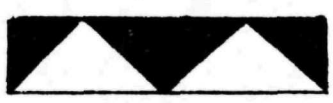
Eric Harlin has sent in some details taken from a flying log kept for the period January to September 1927 at this unit which was covered in Issue 01.

Fairey IIIDs flown during this period included N9495, N9632, N9635, N9730, N9732, N9739, N9742, S1066, S1084 and S1085.

These aircraft carried markings on the wingtips and tail floats which were probably red or black and shaped as follows:



N9730



S1085

Unknown

THE ROYAL AIR FORCE SCHOOL OF NAVAL CO-OPERATION

During the two decades in which the Royal Air Force administered, trained and mainly manned the Fleet Air Arm, the centre of naval aviation training (as opposed to flying training) was the School of Naval Co-operation at Lee-on-Solent, Hampshire.

A few miles along the coast at Gosport, training for carrier-borne operations were predominant while flying training for naval airmen was the responsibility of Leuchars (No.1 Flying Training School). Lee concentrated on floatplane training for much of its RAF career and was thus mainly connected with ship-borne aircraft (as opposed to carrier-borne).

The origins of the School of Naval Co-operation go back to 1917. In June of that year, the only seaplane training school was at Calshot and future expansion demanded more facilities than were available there. It was decided that a temporary station should be opened at Lee-on-the-Solent (its correct name) and that Bessoneau hangars and temporary living huts erected. Houses in the small town were requisitioned as classrooms, messes and offices, while the hangars were erected in Westcliffe paddock. H.M. Naval Seaplane Training School, Lee, was officially opened on 30 July 1917 when three officers and thirty men arrived from Calshot. The first seaplane training course opened on 27 August with 20 officers and flying began on 22 September.

The school had between six and eight Short 827 seaplanes normally on strength which, in the absence of a slipway, were wheeled from the hangars on a trolley, transferred by crane from the cliff edge on to a similar trolley on the beach which then ran on rails into the sea. A slipway was begun in November which came into use in April 1918. Permanent hangars and a double slip were in service in September 1918.

On 1 April 1918, the Royal Naval Air Service merged with the Royal Flying Corps to form the Royal Air Force and in keeping with the new system the school was redesignated No.209 Training Depot Station. By this time, the school was producing thirty trained seaplane pilots each month. Short 184s were in service and by the end of the war on 11 November 1918, the station had accommodation for 100 pupils. There were eight seaplane sheds, 8 canvas hangars and four slips. Training ended on 1 January 1919 and on 16 June 1919, the unit was renamed the RAF and Naval Co-operation School.

This did not last long as on 14 July 1919, Lee became the RAF Seaplane School and on 30 September began a special course training 27 seaplane pilots for service in North Russia. The school became fully operational on 1 June 1920 when seaplane and navigational courses began. Naval officers began to be trained as Fleet Observers in August, the name having again changed, this time to the School of Naval Co-operation and Air Navigation with effect from 3 August 1920. **Fairey** 111Ds became standard equipment and yet another change of name became effective on 21 April 1921 when Lee became the RAF Seaplane Training School. Five-month courses became standard for Royal Navy observers in July while courses began for RAF observers in January 1922. After 20 October 1925, no more RN officers were trained.

Finally, on 19 April 1923, the station received a more permanent name when it became the RAF School of Naval Co-operation. On 1 January 1924, seaplane flying training ended (Calshot's seaplane training squadron taking over responsibility for both floatplane and flying boat training) and the school concentrated on observer training.

In addition to normal training, Lee also undertook other tasks. On 31 August 1922, tests were carried out on Fairey IIID with W/T control and on 13 September 1923, the first experiment with an automatically controlled aircraft was carried out from HMS Stronghold, followed by further trials on 1 November and 15 December. Lee was also responsible for Flycatcher trials in April 1924 and with flying-off trials with a Fairey IIID floatplane from HMS Argus.

Catapult trialswere also involved since Lee's floatplanes were closely connected with operations from battleships and cruisers; it was also the home of the Parnall Petos embarked in the submarine M-2. Two officers and two airmen attached to Lee were lost in this submarine when it failed to surface on 26 January 1932.

Fairey IIIFs replaced IIIDs in 1931, re-equipment being completed on 20 June 1931 when the Training Flight received the last of its seven IIIFs. Three IIIDs were, however, retained as reserve aircraft. The Co-operation Flight already had been converted on 28 February 1930 and had six IIIFs. Lodging on the station were disembarked fleet spotter flights while a much higher formation arrived on 18 January 1932 in the shape of Headquarters, Coastal Area, from its unnautical address of 33 Tavistock Place, London, W.C.1. Simultaneously, Headquarters No.10 Group ceased to exist.

On 28 September 1932, major changes at Lee were put in hand. Land had been purchased inland and work began on an airfield to supplement the seaplane station while new hangars and barrack blocks took shape. The first use of the airfield was when K4226 and K4227 landed from Farnborough. The station recorded these as "Moths" but they were, in fact, Queen Bees intended for HMS Achilles. The airfield was formally taken over from AMWD on 25 October 1934.

At this point, the School of Naval Co-operation reorganised. "A" Flight Gosport (six Fairey IIIFs, three Moths) and "B" Flight Gosport (five Fairey IIIFs, five Seals and one Ripon) moved into Lee and merged with the School of Naval Co-operation which now had "A" Flight with both landplanes and floatplanes (and included "A" Flight Gosport), "B" Flight (formerly No.2 (Training) Flight, Lee) for naval observer training and "C" Flight (formerly "B" Flight Gosport) for telegraphist-air gunner training. The Queen Bees were transferred to Gunnery Co-operation Flights in 1935 while on 15 July, 1935, "D" Flight was formed to train Air Observers Mates. On 1 January 1937, SNC came under No.17 Group, Coastal Command and "A" Flight donated men and aircraft to join No.1 Gunnery Co-operation Flight in forming No.1 Anti-aircraft Co-operation Unit.

The old World War One airfield at Yapton had been taken over and became RAF Station Ford and on 1 December 1937 an advance party moved there to set up the new home of the School of Naval Co-operation which opened on 1 January 1938. Transfer of naval aviation to the Admiralty was in progress and on 24 May 1939, the station was handed over to the Royal Navy.

Aircraft Used by School of Naval Co-operation

Fairey IIID:	N9467
Fairey IIIF:	S1227, S1312, S1402, S1492, S1507, S1795, S1812, S1828, S1829, S1842
DH.60M Moth:	K1107
Avro 504N:	K2349, K2386, K2407
Osprey:	K2777, K4325, K4326, K5750, K5752, K5754
Hart:	K3033, K3838
Seal:	K3483, K3522, K3523, K3524, K3525, K3528, K3529, K4201, K4225, K4792, K4793
Queen Bee:	K4044, K4045, K4046, K4227, K4294, K4545, K5059
Shark:	K4361, K4263, K4364, K4882, K5622, K5630, K5631, K5634, K5636, K5641, K5653, K8456, K8479, K8481, K8482, K8483, K8484, L2347, L2353, L2366
Walrus:	K5774, K5775, K5776, K5778, K5781, K8338, K8339, K8342, K8343, K8537-8547, K8550, L2175, L2181, L2182, L2186
Seafox:	K8569, K8573, K8574
Swordfish:	K5990, K6006

Naval Aircraft Factory Canaries

Colman Corcoran has written to say that N3N-3 N45037 is now owned by Commander Jet Sales (Ireland) Ltd. and asks for details of the design background, number produced and whether the type was designed by another manufacturer and licence-built by the Naval Aircraft Factory. This example has a constructor's number quoted as 2633, an N3N-3 serial.

Our knowledge of the history of the N3N-3 is as follows and as usual we would be pleased to hear from anyone wishing to add to them.

The Naval Aircraft Factory was authorised on 27th July 1917 and a factory was built at Philadelphia Navy Yard which produced its first aircraft (a H-16 flying boat No.A-1049) in March 1918, first flight being on the 27th. A total of 150 H-16s and 140 F-5Ls were built and after the Armistice the Factory produced various outside designs as well as some of their own. Large-scale production of aircraft was not resumed until 1936 when the N3N series began deliveries.

The XN3N-1 made its first flight in August 1935 and completed testing at Pensacola in March 1936. Deliveries to USN training units began in June 1936 as the N3N-1 and 179 were produced. A prototype XN3N-2 was built but not produced while a converted N3N-1(0020) became the XN3N-3 which differed mainly in undercarriage and tail shape. The Wright J-5 engines of the first 159 N3N-1s were replaced by the Wright R-760 in all later aircraft.

Although most N3Ns were used as landplanes, single-float seaplane versions were used by the US Naval Academy at Pensacola and it was not until 1961 that the type was withdrawn from service with the US Navy. Four were used by the US Coast Guard (V193 to V196). Many were sold and a fair number are still being flown, some in USN paint schemes.

The Naval Aircraft Factory itself continued aircraft production until the end of World War 2, building Seagulls, Kingfishers and Catalinas. It had built over 2,000 aircraft, including 179 N3N-1s and 816 N3N-3s plus 2 prototypes. In 1968, the facility became the Naval Air Material Unit.

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The Sunderland at La Baule

Peter Marson has confirmed the identity of the Sunderland in the car park mentioned in AM 01. It is definitely ML796 (coded 5O-S-3) and is at La Baule-les-Pins (the east end of the promenade) on the Guerande road not far from Escoublac airfield. It has no engines but the front and rear turrets are in place. The paint has gone and by mid-1970 it was bare metal. The Sunderland was formerly a bar at Moisdon-la-Riviere.

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Wing Commander Adrian Warburton

Mr. N.H. Prowting, 33 Sopwith Crescent, Wimborne, Dorset, BH21 1SH is seeking information on the above RAF officer who was reported missing on 12th April 1944 while flying a F-5A Lightning from Mount Farm, Oxfordshire to the photographic reconnaissance base at San Severo, Italy. He was last seen by a USAAF P-51 near the Swiss frontier. Any information known would be appreciated.

Feedback

Some details of the fates of several Spitfires listed in the L1000 to L1096 range in No.01 have now come to hand.

L1008 was crashed in a forced landing 1 m E of Glastonbury 25.9.40; to 3242M
L1025 crashed at Tyninghame, E. Lothian after pilot baled out 26.4.40.
L1031 bellylanded at Kidlington 10.1.45 while being flown by 1 Ferry Pool
L1033 crashed while landing at night, Kenley 19.5.40
L1036 was lost when it ran out of fuel and ditched 16.9.40
L1044 was damaged by Bf 109s and SOC 12.8.40
L1045 overshot landing at Squires Gate 29.12.40 while flown by 9 FPP
L1047 collided with L1059 when landing at Grangemouth 1.9.39
L1048 was crashed in forced landing 2 m N of Torquay 26.11.40; to 3248M
L1049 crashed on landing at Speke 16.12.40; to 3876M
L1051 crashed in the sea off the East Gudgeon lightship 28.2.40
L1068 overshot landing at Llandow 6.11.40 while flown by 2 FPP
L1074 collided on the ground with L1008 at Wittering 16.12.39 and DBR
L1079 was hit by K9974 while dispersed at Drem 26.11.39
L1086 crashed in bad visibility at Bramble Island, Gt. Oakley, Essex 30.5.40
L1091 undershot landing at Hornchurch, 18.4.40 and DBR
L1094 dived into the ground at Eglingham, Northumberland 4.11.40

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Dutch Mitchells with the RAF

Question page 01 sought clarification of the origins of Mitchells N5-144, N5-145 and N5-148 used by Nos.681 and 684 Squadrons in India. Jack Horsthuis has supplied some further information on these Dutch Mitchells.

Six B-25s were ferried to the Netherlands East Indies Air Force via the Atlantic by Pan-American crews and five arrived in India for handing over, one having crashed during the delivery flight. These were:

41-12440	became N5-139 "R"	To RAF 12.6.42
41-12445 or '68	became N5-143 "K"	To RAF 12.6.42
41-12507	became N5-144 "C"	To 7th Bomb Gp., 10th AF
41-12508	became N5-144 "B"	To 7th Bomb Gp., 10th AF
41-12509	became N5-148 "M"	To 7th Bomb Gp., 10th AF

It is not known whether '445 or '468 was the one which crashed en route. The last three were obviously turned over to the RAF at Karachi very soon after arrival. N5-143 of No.3 Photographic Reconnaissance Unit caught fire on take-off and crashed in a river 1 mile NE of Pandaveswar airfield on 28.6.42; N5-144 was code "B" by 681 Sqn; N5-145 was C/681 and Z/684; N5-148 was posted missing by 681 Sqn. on 13.2.43.

The numbers supplied to the R.Neth.AF were 10 on loan from USAAC for R.Neth. AF Flying School at Forth Jackson, Florida, all returned to USAAC; 150 to Pacific area of which 6 went to USAAC in Australia, 5 to RAF (as above) and 39 to RAAF (to become A47-1 to A47-39); 67 purchased for use in Europe (FR141-207) + 43 on loan from RAF. Of the 67 purchased, two (FR203 and 148) were lost on delivery and three (FR153-155) not delivered. FR187 is untraced and any information on this aircraft would be welcome.

MA956 mentioned in Issue 01 was taken over by the RAF on 25.6.43 and was damaged beyond repair at Alipore when petrol-soaked ground caught fire under it on 16.12.44.

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GRUMMAN AIRCRAFT TYPE LIST

Type No.	Name, designation	Engine	First flight	No. built	Comments
5	XFF-1	1 Wright R-1820E	1931	1	2 seat fighter, USN
	FF-1	1 Wright R-1820F	1933	27	Production.
	FF-2	do	1936		Dual control trainer conversions.
6	SF-1	1 Wright R-1820F	1934	34	2 seat scout, USN.
7	XJF-1 Duck	1 P.&W. R-1535-62	4 May 33	1	Utility amphibian, USN.
	JF-1 Duck	1 P.&W. R-1830-62	17 Apr 34	27	Production.
8	XF2F-1	1 P.&W. R-1535-44	18 Oct 33	1	1 seat fighter, USN.
	F2F-1	1 P.&W. R-1535-72	1935	54	Production.
9	JF-2 Duck	1 Wright R-1820-08	27 Oct 34	15	USCG.
10	JF-3 Duck	1 Wright R-1820-08	24 Sep 35	5	USN.
11	XF3F-1	1 P.&W. R-1535-72	1935	2	1 seat fighter, USN.
	F3F-1	1 P.&W. R-1535-84	1936	54	Production.
15	J2F-1 Duck	1 Wright R-1820-20	3 Apr 36	29	Utility amphibian, USN.
	J2F-1A Duck	do		(1)	Landing flaps experiments.
	J2F-2 Duck	do	6 Jun 38	30	USN.
	J2F-2A Duck	do		(9)	Armed, USMC.
	J2F-3 Duck	do	1 Feb 39	20	USN.
	J2F-4 Duck	do	14 Sep 39	36	USN plus 4 to Argentina.
	J2F-5 Duck	1 Wright R-1820-50	10 Jul 41	144	USN.
	J2F-6 Duck	1 Wright R-1820-54		330	USN. Built by Columbia.
18	XF4F-2	1 P.&W. R-1830	2 Sep 37	1	1 seat fighter, USN.
19	F3F-2	1 Wright R-1820-22	25 Jul 36	82	Production.
	F3F-3	do	Dec 38	27	
20	Duck	1 Wright R-1820-08	5 Feb 37	8	Utility amphibian for Argentina.
21	XJ3F-1 Goose	2 P.&W. R-985-AN-6	1938	1	Transport amphibian, USN.
	JRF-1 Goose	do	1939	12	Production.
	JRF-1A Goose	do	1940	(5)	Target tower conversions.
	JRF-2 Goose	do	1939	7	USCG.
	JRF-3 Goose	do	1939	3	USCG.
	JRF-4 Goose	do	1940	12	USN.
	JRF-5 Goose	do	1941	185	USN.
	JRF-5G Goose	do			Hydrofoils.
	JRF-6B Goose	do		37	Navigation trainer for RN.
	OA-9 Goose	2 P.&W. R-985-17		31	Utility amphibian, USAAC.
	OA-13A Goose	2 P.&W. R-985	1942	3	Utility amphibian, USAAC.

Type No.	Name, designation	Engine	First flight	No. built	Comments
	OA-13B Goose	2 P.&W. R-985-AN-6	1945	(2)	Utility amphibian, USAAC. Ex JRF-5s.
21A	Goose	2 P.&W. R-985	1937		Commercial amphibian.
21C	Goose	4 Lycoming GSO-480-B2D6	1958		McKinnon conversion.
21C	Goose	2 P.&W. PT6A-6			do
21D	Goose	4 Lycoming GSO-480-B2D6			do
21D	Goose	2 P.&W. PT6A-20			do
21E	Goose	2 P.&W. PT6A-20			do
21F	Goose	2 Garrett Airesearch TPE-331			do
21G	Goose	2 P.&W. PT6A-27			do
22	Gulfhawk II	1 Wright R-1820-G1	1936	1	Civil F2F.
23	Goblin	1 Wright R-1820	1937	57	FF-1 built by CCF. 15 to RCAF, 40 to Spain, 1 to Japan, 1 to Nicaragua.
32	Gulfhawk III	1 Wright GR-1820-G-22	1938	1	Commercial transport.
32A	UC-103	1 Wright GR-1820-G-22	1938	1	Commercial transport, impressed by USAAC.
34	XF5F-1 Skyrocket	2 Wright R-1820	1 Apr 40	1	1 seat fighter, USN.
36	XF4F-3 Wildcat	1 P.&W. XR-1830-76	12 Feb 39	1	11 seat fighter, USN.
	F4F-3 Wildcat	1 P.&W. R-1830-76/86	Aug 40	285	Production.
	F4F-3A Wildcat	1 P.&W. R-1830-90	1941	955	
	F4F-3S Wildcat	1 P.&W. R-1830-86	28 Feb 43	(1)	Seaplane conversion.
	F4F-4 Wildcat	do	14 Apr 41	2229	Also built by Eastern as FM-1.
	XF4F-5 Wildcat	1 Wright R-1820-40	Jun 40	2	
	XF4F-6 Wildcat	1 P.&W. R-1830-90	Nov 40	1	
	F4F-7 Wildcat	1 P.&W. R-1830-86	30 Dec 41	21	
	XF4F-8 Wildcat	1 Wright R-1820-56	8 Nov 42	2	
	FM-2 Wildcat	do	1943	4777	F4F-8 built by Eastern.
41	XF5F-1 Skyrocket	2 Wright R-1820	3 Feb 42	(1)	1 seat fighter, USN.
42	XJL-1	1 Wright R-1820-56	1946	2	Utility amphibian, USN. Built by Columbia.
44	Widgeon	2 Ranger L-440			Commercial amphibian.
	Widgeon	2 Lycoming GSO-480-B2D6			McKinnon conversions.
	J4F-1 Widgeon	2 Ranger L-440	1941	25	USCG.
	J4F-2 Widgeon	2 Ranger L-440	1941	131	USN.
	OA-14A Widgeon	2 Ranger L-440-5	1942	16	USAAC.
46	XP-50	2 Wright R-1820-67	18 Feb 41	1	1 seat fighter, USAAC.
51	XF7F-1 Tigercat	2 P.&W. R-2800-22W	Dec 43	2	1 seat fighter, USN.
	F7F-1 Tigercat	do	Apr 44	34	Production.
	F7F-2 Tigercat	do		65	2 seat night fighter.

Type No.	Name, designation	Engine	First flight	No. built	Comments
	F7F-3 Tigercat	2 P.&W. R-2800-34W		189	1 seat fighter.
	F7F-3N Tigercat	do		60	2 seat night fighter.
	F7F-3P Tigercat	do			1 seat photographic conversions.
	F7F-4N Tigercat	do		13	2 seat night fighter.
58	XF8F-1 Bearcat	1 P.&W. R-2800-22W	21 Aug 44	2	1 seat fighter, USN.
	F8F-1 Bearcat	1 P.&W. R-2800-34W	Feb 45	765	Production.
	F8F-1B Bearcat	do		100	Cannon.
	F8F-1N Bearcat	do		36	Night fighter.
	F8F-2 Bearcat	do	1948	293	
	F8F-2N Bearcat	do		12	Night fighter.
	F8F-2P Bearcat	do		60	Photographic.
58A	Gulfhawk IV	do	1948	1	Civil F8F-1.
	Bearcat Mk.II	do		1	Civil F8F-2.
63	Kitten I	1 Lycoming O-290	18 Mar 44	1	Lightplane.
64	XJR2F-1 Albatross	2 Wright R-1820-76	24 Oct 47	2	Utility amphibian.
	SA-16A (HU-16A) Albatross	do	1947	305	Production, USAF.
	UF-1 (HU-16C) Albatross	do		69	Production, USN.
	UF-1G Albatross	do		41	USCG.
	UF-1L (LU-16C) Albatross	do			USN winterized conversions.
	UF-1T (TU-16C) Albatross	do		5	Trainer, USN.
	Turbo Albatross	2 Rolls-Royce Dart	25 Feb 72	(1)	Conroy civil conversion.
65	Tadpole	1 Continental C-125	7 Dec 44	1	Lightplane amphibian.
70	XTB3F-1	1 P.&W. R-2800-22 plus	19 Dec 45	2	Torpedo bomber, USN.
		1 Westinghouse 19XB			
	AF-2S Guardian	1 P.&W. R-2800-48W	17 Nov 49	190	Anti-sub. killer, USN.
	AF-2W Guardian	do	1949	156	Anti-sub. hunter.
	AF-3S Guardian	do		25	Anti-sub. killer.
	AF-3W Guardian	do		16	Anti-sub. hunter.
72	Kitten II	1 Lycoming O-290	Feb 46	1	Lightplane.
73	Mallard	2 P.&W. R-1340-S3H1	1946	59	Civil amphibian transport.
	Turbo-Mallard	2 P.&W. PT6A-27		(1)	Frakes conversion.
79	XF9F-2 Panther	1 Rolls-Royce Nene	24 Nov 47	2	1 seat fighter, USN.
	F9F-2 Panther	1 P.&.W. J42-P-6	Nov 48	390	Production.
	XF9F-3 Panther	1 Allison J33-A-8	Nov 48	1	
	F9F-3 Panther	do		54	Converted to F9F-2s.
	F9F-5 Panther	1 P.&.W. J42-P-2/4/6	21 Dec 49	627	
	F9F-5KD(DF-9E) Panther	do			Drone & director conversions.
	F9F-5P Panther	do		28	Photographic.
81	Hepcat	1 Lycoming O-290		(1)	Ducted wing experiment.
89	XS2F-1 Tracker	2 Wright R-1820-82WA	4 Dec 52	2	Anti-sub., USN.

Type No.	Name, designation	Engine	First flight	No. built	Comments
	S2F-1 (S-2A) Tracker	2 Wright R-1820-82WA	Feb 54	650	Production.
	TS-2A Tracker	do			Trainer conversions.
	US-2A Tracker	do			Utility conversions.
	S2F-1S (S-2B) Tracker	do			Jezebel/Julie conversions.
	US-2B Tracker	do			Utility conversions.
	S2F-2 (S-2C) Tracker	do	12 Jul 54	60	Torpedo/Anti-sub.
	S2F-2P (RS-2C) Tracker	do			Photographic conversions.
	S2F-2U (US-2C) Tracker	do			Utility conversions.
	S-2F Tracker	do			Jezebel/Julie conversions.
93	XF9F-6 Cougar	1 P.&W. J48-P-8	20 Sep 51	3	1 seat fighter, USN.
	F9F-6 Cougar	do	Nov 52	646	Production.
	F9F-6D (DF-9F) Cougar	do			Drone director conversions.
	F9F-6K (QF-9F) Cougar	do			Drone conversions.
	F9F-6K2 (QF-9G) Cougar	do			Drone conversions.
	F9F-6P Cougar	do		60	Photographic.
	F9F-7 (F-9H) Cougar	1 Allison J33-A-16A		168	
93	F9F-8 (F-9J) Cougar	1 P.&W. J48-P-8	18 Dec 53	602	Included some F9F-8B (AF-9J) attack versions.
	F9F-8P (RF-9J) Cougar	do		110	Photographic.
	F9F-8T (TF-9J) Cougar	do	4 Apr 56	399	2 seat trainer.
	QF-9J Cougar	do			Drone conversions.
96	TF-1 (C-1A) Trader	2 Wright R-1820-82WA	1955	87	COD transport, USN.
98	XF9F-9 Tiger	1 Wright J65-W-7	30 Jul 54	2	1 seat fighter, USN.
	F11F-1 (F-11A) Tiger	1 Wright J65-W-18	1955	199	Production,
	F11F-1F Tiger	1 G.E. J79-GE-3A		2	
111	SA-16B (HU-16B) Albatross	2 Wright R-1820-76A	16 Jan 56		Utility amphibian, USAF. Conversions from SA-16A.
	UF-2 (HU-16D) Albatross	do	1957	(51)	USN, conversions from UF-1.
	UF-2G (HU-16E) Albatross	do		(71)	USCG, conversions from UF-1G & SA-16A.
117	WF-2 (E-1B) Tracer	2 Wright R-1820-76A	1 Mar 57	88	Early warning, USN.
121	S2F-3 (S-2D) Tracker	2 Wright R-1820-82WA	21 May 59		Anti-sub, USN.
	S2F-3S (S-2E) Tracker	do			Jezebel/Julie conversions.
	US-2D Tracker	do			Utility conversions.
	S-2G Tracker	do			
125	TF-1Q (EC-1A) Trader	2 Wright R-1820-82WA	26 Nov 56		Electronic conversions.
128	XA2F-1 Intruder	2 P.&W. J52-P-6	9 Apr 60	4	Strike, USN.
	A-6A Intruder	2 P.&W. J52-P-8	1962		Production.
	A-6B Intruder	do			
	A-6C Intruder	do			

Type No.	Name, designation	Engine	First flight	No. built	Comments
	KA-6D Intruder	2 P.&W. J52-P-8			Tanker.
	A-6E Intruder	do			Strike.
	A2F-1H (EA-6A) Intruder	do			ECM.
1128	EA-6B Prowler	do	25 May 68		ECM.
134	YAO-1AF Mohawk	2 Lycoming T53-L-3	14 Apr 59	9	Observation, US Army.
	AO-1AF (OV-1A) Mohawk	do	1959		Production.
	JOV-1A Mohawk	do			Armed.
	AO-1BF (OV-1B) Mohawk	do	1960		Radar Observation.
	AO-1CF (OV-1C) Mohawk	do			Observation.
	OV-1D Mohawk	do			
159	Gulfstream I	2 Rolls-Royce Dart 529-8H	14 Aug 58		Civil transport.
	VC-4A Gulfstream	2 Rolls-Royce Dart 529-8X		1	USCG.
	TC-4C Gulfstream	2 Rolls-Royce Dart	14 Jun 67	9	Trainer, USN.
1159	Gulfstream II	2 Rolls-Royce Spey	2 Oct 66		Civil transport.
	VC-11A Gulfstream	do			USCG.
164	Ag-Cat	1 Jacobs R-755-A2M1			Agricultural. Many different radial engine conversions.
Type numbers not known for the following types.					
	C-2A Greyhound	2 Allison T56-A-8A	18 Nov 64		COD transport, USN.
	E-2A Hawkeye	2 Allison T56-A-8A	21 Oct 60		Early warning, USN.
	TE-2A Hawkeye	do			Trainer.
	E-2B Hawkeye	do			Early warning.
	E-2C Hawkeye	do	20 Jan 71		
	XF6F-1 Hellcat	1 P.&W. R-2800		1	1 seat fighter, USN.
	XF6F-2 Hellcat	1 P.&W. R-2800		1	
	XF6F-3 Hellcat	1 P.&.W. R-2800-10	26 Jun 42	(1)	
	F6F-3 Hellcat	1 P&W. R-2800-10W	30 Jul 42	4423	Production.
	F6F-3E Hellcat	do		18	Radar.
	F6F-3N Hellcat	do		205	Night fighter.
	XF6F-4 Hellcat	1 P.&.W. R-2800-27	Oct 42	(1)	
	F6F-5 Hellcat	1 P.&W. R-2800-10W		6436	
	F6F-5K Hellcat	do			Drone conversions.
	F6F-5N Hellcat	do		1189	Night fighter.
	F6F-5P Hellcat	do			Photographic conversions.
	XF6F-6 Hellcat	1 P.&W. R-2800-18W	6 Jul 44	2	
	XF10F-1 Jaguar		May 52	1	Variable sweep 1 seat fighter, USN.
	F-14A Tomcat	2 P.&.W. TF30-P-412	21 Dec 70		2 seat fighter, USN.
	F-14B Tomcat	2 P.&W. F401-PW-400	12 Sep 73	2	
	XTBF-1 Avenger	1 Wright R-2600-8	1 Aug 41	1	Torpedo bomber, USN.

Type No. Name, designation	Engine	First flight	No. built	Comments
TBF-1 Avenger	1 Wright R-2600-8	Jan 42	4775	Production, Also built by Eastern as TBM-1.
TBF-1B Avenger	do		395	RN Tarpon I.
TBF-1C Avenger	do			Also TBM-1C.
TBF-1CP Avenger	do			Photographic conversions.
TBF-1D Avenger	do			Radar conversions.
TBF-1E Avenger	do			Radar conversions.
TBF-1J Avenger	do			Arctic equipment.
TBF-1L Avenger	do			Searchlight conversions.
XTBF-2 Avenger	1 Wright XR-2600-10	1 May 42	1	Torpedo bomber.
XTBF-3 Avenger	1 Wright R-2600-20		2	Prototype TBM-3.
TBM-3 Avenger	do		4664	Production XTBF-3, built by Eastern.
TBM-3D Avenger	do			Radar conversions.
TBM-3E Avenger	do			Anti-sub.
TBM-3H Avenger	do			Special search radar.
TBM-3J Avenger	do			Arctic equipment.
TBM-3L Avenger	do			Searchlight conversions.
TBM-3N Avenger	do			Night attack.
TBM-3P Avenger	do			Photographic conversions.
TBM-3Q Avenger	do			ECM conversions.
TBM-3R Avenger	do			Transport conversions.
TBM-3S Avenger	do			Anti-sub. conversions.
TBM-3U Avenger	do			Utility conversions.
TBM-3W Avenger	do			Anti-sub. conversions.
TBM-3W2 Avenger	do			Anti-sub. conversions.
XTBM-4 Avenger	do		3	

Types 1, 2, 3, 4 believed to be floats. Type 16 XF4F-1 project. Type 37 export F3F project. Types 12-14, 17, 24-31, 33, 35, 37-40, 43, 45, 47-50, 52-57, 59-62, 66-69, 71, 74-78, 80, 82-88, 90-92, 94, 95, 97, 99-110, 112-116, 118-120, 122-124, 126, 127, 129-133, 135-158, 160-163 no details known.

Biographical Notes

While researching Major B.C. Bell, DSO, DSC in the Australian War Memorial at Canberra during a recent visit to Australia, some personal reminiscences of Major R.S. Dallas by Major Bell were discovered which add to our knowledge of this high-scoring fighter pilot.

Major Bell himself had a distinguished career in the RNAS and RAF. He was born at Coochin Coochin station, or ranch as it would be called in America, in the cattle country of western Queensland. In September 1914 he went to France with the first Queensland Ambulance. He subsequently served with the Red Cross at Boulogne and the Australian Voluntary Hospital.

Like many others of the period who wished to fly for their country, he learnt at his own expense at Hendon, subsequently being commissioned in the RNAS as a probationary Flight Sub-Lieutenant on May 2, 1915. His pilot's certificate was No. 1362. In July 1915 he was posted to No.1 Wing, RNAS at St. Pol, Dunkirk.

Originally No.1 Squadron, RNAS, it had been redesignated No.1 Wing RNAS in June 1915. At that time it was equipped with a medley of aircraft types, mainly Morane Parasols, Henri Farmans and Vickers FB.5 Gun Buses. In September Nieuport 12 and 14 two-seaters were received and in January 1916 Nieuport 11 and 17 scouts added fighting to the Wing's extensive repertoire.

On March 1, 1916 No.1 Wing was formed into three component squadrons. A squadron comprised Nos.1 and 2 Flights, equipped with Nieuport two-seaters and Nieuport scouts respectively. B Squadron consisted of Nos. 3 and 4 Flights using Nieuport two-seaters and B.E.2Cs respectively. The Bombing Squadron had Caudron G.IVs.

On June 16, A Squadron was detached to Furnes, becoming No.1 (Naval) Squadron on December 16, 1916. The wheel had come full circle.

Initially flying reconnaissance, bombing and Naval gunnery spotting missions, Bell progressed to the Nieuport fighters. His DSC was awarded at this time.

In February 1917 Major Bell was transferred to No.3 (Naval) Squadron on the Somme, flying Sopwith Pups. Although only two months later he became C.O. of No.10 (Naval) Squadron, he had shot down six enemy aircraft and collected the DSO while with No.3. Major Bell remained in command of No.10 (Naval)/No.210 RAF Squadron until October 1918. Using Nieuport 17s when he took over, No.10 subsequently re-equipped with Sopwith Triplanes in May 1917, changing over gradually to Sopwith Camels with Bentley Rotaries as from July. The Camel was used by the Squadron until the end of the War. According to Capt. Swale who served as senior flight commander in No.210 towards the end of 1918, Major Bell went to war in style. He had his own private car and personal chauffeur plus a small string of horses. Riding was his passion and a favourite pastime was organising horse races in the vicinity of the aerodrome. Incredible as it may seem, another pastime was rough shooting with beaters and a gun. The reason for his nickname of "Butcher" Bell was never apparent to Capt. Swale who found him understanding and most helpful.

A surprisingly parallel career to Major Bell's was that of Major Dallas. Also an Australian, Dallas also joined the RNAS, being commissioned as Flight Sub-Lieutenant in June 1915. He also did his training at Hendon, graduating on August 5 with Certificate No.1512. Via Chingford and Dover he was posted to No.1 Wing RNAS at Dunkirk. On June 4, 1917 Dallas was promoted to the command of No.1 (Naval) Squadron, having by then acquired the DSC, Croix de Guerre and a goodly number of victories. At that time No.1 were equipped with Sopwith Triplanes, a type Dallas had exploited to the full. In November the Triplanes were exchanged for Bentley Camels and the Squadron was moved to Dover. However in February 1918 No.1 (Naval) moved to Teteghem, near Dunkirk. Major Dallas continued to fly and to score as well.

On April 1, 1918, the day the RNAS and RFC were combined as the RAF, Dallas was posted to No.40 Squadron as C.O. The Squadron was equipped with S.E.5As.

Dallas continued to fly operationally and was killed in action with three Fokker Triplanes, believed to be from Jagdstaffel 14, on June 1, 1918 near Lievin. He had then shot down fifty-one enemy aircraft.

"Reveille", an Australian magazine, published in May 1935 a short article on Dallas by Major Bell. This is reproduced here in full. A short extract has also been used in an excellent and very thorough article on Major Dallas in "Cross and Cockade Great Britain Journal" 1971 No.1 issue which is recommended to those interested.

"It was about the middle of 1915 when I first went to No.1 Squadron, R.N.A.S., stationed at St. Pol near Dunkirk. I had not been there very long before a fellow countryman named Roderic Stanley Dallas was posted to the same squadron. He was a tall, squarely built, kindly dispositioned fellow with a charming personality and a dry sense of humour. I took a tremendous fancy to him and we soon became great friends. We did quite a lot of flying together while on the coastal patrol.

Stanley Dallas soon carved for himself a very high reputation, his quiet, unassuming manner and his determined, dauntless courage soon making him outstanding. He was transferred later to the Somme area and there had an opportunity to get a lot of aerial fighting. His score of enemy machines rapidly mounted and his name became more and more widely known. He had shot down thirty or forty enemy machines and had well earned the D.S.O., D.S.C. and bar, which had been awarded him.

He was then given command of a squadron of triplanes, and in a very short time his squadron had a splendid name. He personally led them on many occasions, and he used to make a practice of taking out the younger and inexperienced pilots and teaching them to know the lines. If they could not open their score Dallas would try and manoeuvre them into position so that they could get a German while he protected them.

Every officer or man who served either with or under Dallas loved him for he had every fine quality that a man can possess. Tolerant, straightforward, always seeing the best in everybody, brave, thoughtful and wise, he combined with these a keen sense of humour. He had no vices of any kind so far as I know, and I never once heard him swear.

One day he took a young, inexperienced pilot over the lines to give him confidence and teach him the cunning of aerial fighting. For once Dallas was taken by surprise by an enemy formation of eight scouts. The Germans dived on to them and in a very short time the young British pilot was in serious trouble with an opponent on his tail. Again and again he was saved by Dallas, who, disregarding his own safety, would shoot the German off his colleague's tail while being attacked himself. He thus saved the boy's life, but in doing so he fell himself, riddled with bullets.

It so happened that Dallas had this day been promoted to wing commander, and a message telling him to proceed to take over command of a wing and not to fly any more, was on his table waiting for him to read on his return.

The news of his death came as a great shock to us all in the air service. We realised that we had lost one of our most gallant members, one whose high standard had been so helpful to us; and I realised that Australia had lost one of the finest men she had ever produced and one of her most daring airmen.

I am sure, if he had lived, Dallas would have reached the highest places in the air service. I can think of no one more capable for a great command, and none of his old comrades would have been surprised to see him head of the Australian flying corps."

HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 1

Type/Name/Designation			Engine	First Flight	No. Built	Comments
1	A	Blue Bird	1 Advance V-4	-	1	Built 1909. Never flew. Underpowered.
2	B			1909	1	Biplane for R.C. Fenwick
3	C		1 Alvaston 2-cyl	-	(1)	Re-eng. Type A. Never flew. Underpowered
	C		1 Isaacson 7-cyl radial	1910	(1)	2nd engine change, Type A.
4	D		1 Green 4-cyl	1911	1	Crashed 15 July 1911
5	E50	Yellow Peril	1 Gnome 50 hp	1911	1	Used for training at Hendon
6	F		1 Gnome 70 hp	20 Aug'12	1	For Military Aeroplane Trials
7	G100		1 Anzani 10-cyl	11 Dec'13	1	Crescent-wing biplane
11	O/100		2 R-R Eagle II	18 Dec'15	1	Heavy bomber prototype
	O/100		2 R-R Eagle II	Sep'16	39	Production aircraft
	O/100		2 Sunbeam Cossack		6	Alternative engines
	O/100		4 Hispano-Suiza	Nov'17	(1)	Trial installation for V/1500
	O/7		2 R-R Eagle	5 Jul'19	(7)	Civil passenger conversion
12	O/400		2 R-R Eagle IV	Sep'17	(1)	Modified O/100
	O/400		2 R-R Eagle IV or VII	1918	702	Production aircraft
	O/400		2 Sunbeam Maori			Alternative engines
	O/400		2 Fiat A12bis			Alternative engines
	O/400		2 Liberty 12N	1918	107	Built by Standard Aircraft, USA
	O/400		2 R-R Eagle	1919		RAF transport conversion
	O/400		2 R-R Eagle	1919	(11)	Civil passenger conversion
	O/10		2 R-R Eagle	Jun'20	(10)	Civil passenger conversion
	O/10		2 Bristol Jupiter	Dec'20	(1)	Engine change
	O/11		2 R-R Eagle		(3)	Civil passenger/freighter conversion
	O/400		2 Napier Lion		(1)	Long range civil conversion
14	R200		1 Hispano-Suiza	1917	1	2-seat reconnaissance seaplane
	R200		1 Hispano-Suiza	1918	1	2-seat reconnaissance landplane
15	V/1500		4 R-R Eagle VIII	May'18	2	Heavy bomber prototypes
	V/1500		4 R-R Eagle VIII	1918	30	Production aircraft
	V/1500		4 Galloway Atlantic	1918	1	Alternative engines
	V/1500		4 Napier Lion	3 Sep'19	1	Alternative engines
16			2 R-R Eagle	22 Aug'19	(1)	Civil transport conversion of O/400(C9713)
17			1 Siddeley Puma	Apr'20	(1)	Slotted D.H.9 for research
18	W8		2 Napier Lion	4 Dec'20	1	Civil passenger aircraft
	W8b		2 R-R Eagle	1922	3	Civil passenger aircraft
19	T Hanley I		1 Napier Lion	3 Mar'22	1	1-seat torpedo bomber
	T Hanley II		1 Napier Lion		1	1-seat torpedo bomber
	T Hanley III		1 Napier Lion		1	1-seat torpedo bomber

For missing type numbers see Projects List - Sheet 6

HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 2

Type/Name/Designation			Engine	First Flight	No. Built	Comments
20	X4B		1 Liberty	1921	1	Monoplane for slot research
21	S		1 Bentley BR.2	Sep'23	1	1-seat monoplane fighter for US Navy
22			1 Douglas	1923	1	1-seat lightplane
			1 Douglas	1923	1	Pylon-mounted engine
23			1 Blackburne	1923	1	1-seat lightplane
24	W8d	Hyderabad	2 Napier Lion	Oct'23	1	Heavy bomber prototype
	W8d	Hyderabad	2 Napier Lion		45	Production aircraft
25	Ta	Hendon	1 Napier Lion II	7 Jul'24	1	2-seat torpedo bomber
26	W8e		1 R-R Eagle IX plus	1924	1	Civil passenger aircraft
			2 Siddeley Puma			Another 4 a/c built in Belgium by SABCA
	W8e		2 R-R Eagle VIII		(1)	Twin-engine conversion
	W8f	Hamilton	1 R-R Eagle IX plus	20 Jun'24	1	Civil passenger aircraft
			2 Siddeley Puma			Another 10 a/c built in Belgium by SABCA
	W8g		2 R-R F	Nov'29	(1)	Twin-engined Hamilton conversion
27	W9a	Hampstead	3 Siddeley Jaguar IV	1 Oct'25	1	Civil passenger aircraft
	W9a	Hampstead	3 Bristol Jupiter VI	1926	(1)	Re-engined
28	C7	Handcross	1 R-R Condor III	Dec'24	1	Bomber
30	W10		2 Napier Lion	10 Feb'26	4	Civil passenger aircraft
	W10		2 R-R F XI		(1)	Conversion
	W10		2 Napier Lion		(2)	Tanker conversion
31	E	Harrow	1 Napier Lion XI	24 Apr'26	1	2-seat torpedo bomber
	E	Harrow	1 Napier Lion XI	1928	(1)	Seaplane conversion
32		Hamlet	3 Bristol Lucifer IV	19 Oct'26	1	Civil passenger aircraft
		Hamlet	2 A-S Lynx	1927	(1)	Conversion
33		Hinaidi I	2 Bristol Jupiter VIII	26 Mar'27	(9)	Heavy bomber prototypes. Hyderabad conversion
		Hinaidi I	2 Bristol Jupiter VIII		6	Production aircraft
34		Hare	1 Bristol Jupiter VI	Feb'28	1	2-seat reconnaissance biplane
35		Clive I	2 Bristol Jupiter	Feb'28	1	Military transport
		Clive	2 Bristol Jupiter XIF	Aug'32	(1)	Civil conversion (G-ABYX)
		Clive	2 Bristol Jupiter XIF		(1)	Tanker conversion
		Clive II	2 Bristol Jupiter VIII	Mar'30	2	Military transport. Originally Chitral I
36		Hinaidi II	2 Bristol Jupiter VIII	25 Nov'31	34	Production aircraft. Metal airframe
38		Heyford	2 R-R Kestrel II	Jun'30	1	Heavy bomber prototype
39		Gugnunc	1 A-S Mongoose II	30 Apr'29	1	2-seat STOL biplane
42		Hannibal	4 Bristol Jupiter XI(F)	17 Nov'30	4	Civil pass. a/c. Also known as H.P.42E
43			3 Bristol Pegasus	21 Jul'32	1	Military transport
45		Heracles	4 Bristol Jupiter XI(FBM)	1931	4	Civil pass. a/c. Also known as H.P.42W

HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 3

Type/Name/Designation	Engine	First Flight	No. Built	Comments
46	1 R-R Buzzard III	Oct'31	1	3-seat torpedo bomber
47	1 Bristol Pegasus III	Nov'33	1	2-seat Torpedo bomber
50 Heyford 1	2 R-R Kestrel III	21 Jun'33	15	Production a/c. Most converted to Mk.IA
Heyford IA	2 R-R Kestrel III		23	Modified propellors and generators
Heyford II	2 R-R Kestrel IV	1934	(2)	Cockpit canopy. Modified eng. installation
Heyford II	2 R-R Kestrel VI	1934	16	Production a/c. Modified Mk.I
Heyford III	2 R-R Kestrel VI	May'35	70	Production a/c. Developed Mk.II
Heyford III	2 R-R Kestrel VI		(1)	Tanker conversion
51	2 A-S Tiger	8 May'35	1	Military transport
	2 Bristol Pegasus 3M3		(1)	Engine change
	2 Bristol Pegasus 3M3		(1)	Tanker conversion
52 Hampden	2 Bristol Pegasus PE5S(a)	21 Jun'36	2	Medium bomber prototypes
Hampden I	2 Bristol Pegasus XVIII	May'38	1430	Production aircraft. Extensive re-design
Hampden I	2 Bristol Pegasus XVIII		160	Built by Canadian Associated Aircraft
Hampden	2 Bristol Pegasus XXIV	1938	1	To Sweden
Hampden TB.Mk.I	2 Bristol Pegasus XVIII	1942	(141)	Torpedo bomber conversion
Hampden Met.I	2 Bristol Pegasus XVIII	1943		Meteorological reconnaissance conversion
53 Hereford	2 Napier Dagger VIII	1 Jul'37	(1)	Converted from Hampden prototype
Hereford I	2 Napier Dagger VIII		100	As production Hampden airframe
				9 a/c converted to Hampdens
54 Harrow I	2 Bristol Pegasus X	10 Oct'36	38	Bomber-transport
Harrow	2 Bristol Pegasus X		(1)	Civil tanker conversion (G-AFRG)
Harrow II	2 Bristol Pegasus XX		62	Production aircraft. Revised armament
Harrow	2 Bristol Pegasus XX		(2)	Civil tanker conversions (G-AFRH & G-AFRL)
Sparrow	2 Bristol Pegasus XX			Unarmed transport conversion
57 Halifax	4 R-R Merlin	25 Oct'39	2	Heavy bomber prototypes (L7244 & L7245)
Halifax I Srs.I	4 R-R Merlin 10	11 Oct'40		Production aircraft
Halifax I Srs.II	4 R-R Merlin 10			All-up weight increased
Halifax I Srs.III	4 R-R Merlin 10			Increased tankage
59 H'fax B.Mk.II Srs.I	4 R-R Merlin 20			Dorsal turret
H'fax B.Mk.II Srs.I (Special)	4 R-R Merlin 20			Nose and dorsal turrets removed Some a/c fitted with 4-gun dorsal turret
H'fax B.Mk.II Srs. 1A	4 R-R Merlin 22			Clear nose 4-gun dorsal turret
H'fax G.R.Mk.II Srs.IA	4 R-R Merlin 22			Anti-shipping conversion. 0.50 mg in nose

HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 4

Type/Name/Designation	Engine	First Flight	No. Built	Comments
59 Halifax B.Mk.II Srs.IA	4 R-R Merlin 20/65	1942	(2)	Aerodynamic dev. a/c for Halifax IV (HR756 & HR679)
61 Halifax B.Mk.III	4 Bristol Hercules 6	1942	(2)	Prototype, engine change
Halifax B.Mk.III	4 Bristol Hercules 16	1943	2091	Production aircraft. Ventral turret or H2S radome. Extended w'gtips on late prod. a/c
Halifax A.Mk.III	4 Bristol Hercules 16			Airborne support conversion
Halifax C.Mk.III	4 Bristol Hercules 16			Transport conversion
Halifax B.Mk.VI	4 Bristol Hercules 100		557	Tropicalised. Extended w'gtips. H2S radome
Halifax B.Mk.VI	4 Bristol Hercules 100			Radar countermeasures conversion
Halifax C.Mk.VI	4 Bristol Hercules 100			Transport conversion
Halifax G.R.Mk.VI	4 Bristol Hercules 100			Anti-shipping conversion
Halifax Met.Mk.VI	4 Bristol Hercules 100			Meteorological reconnaissance version
Halifax B.Mk.VII	4 Bristol Hercules 16	1944	183	B.Mk.VI with alternative engines
Halifax A.Mk.VII	4 Bristol Hercules 16			Airborne support conversion
Halifax C.Mk.VII	4 Bristol Hercules 16			Transport conversion
62 Hampden II	2 Wr.Cyc GR1820-G105A	1940	(2)	Engine change
63 Halifax B.Mk.V Srs.I (Special)	4 R-R Merlin 20			Dowty undercarriage
Halifax B.Mk.V Srs.IA	4 R-R Merlin 22			B.Mk.II Srs.IA with Dowty undercarriage
Halifax A.Mk.V Srs.IA	4 R-R Merlin 22			Airborne Support conversion
Halifax G.R.Mk.V Srs.I (Special)	4 R-R Merlin 20			Anti-shipping conversion
Halifax G.R.Mk.V Srs.IA	4 R-R Merlin 22			Anti-shipping conversion
Halifax Met.Mk.V Srs.IA	4 R-R Merlin 22			Meteorological reconnaissance conversion
67 Hastings	4 Bristol Hercules	7 May'46	2	Military transport prototypes
Hastings C.1	4 Bristol Hercules 101	25 Apr'47	100	Production aircraft
Hastings C.1A	4 Bristol Hercules 101			Conversion. Underwing tanks
Hastings Met.1	4 Bristol Hercules 101		(17)	Meteorological reconnaissance conversion
Hastings C.2	4 Bristol Hercules 106		42	Low tailplane
Hastings T.5	4 Bristol Hercules 101		(8)	Radar trainer conversion
Hastings	2 Bristol Hercules 101 plus 2 A-S Sapphire		(1)	Sapphire test-bed
68 Hermes I	4 Bristol Hercules	2 Dec'45	1	Civil passenger aircraft
70 Halifax C.Mk.VIII	4 Bristol Hercules 100			Military transport. Detachable freight pannier
Halton	4 Bristol Hercules 100	Jul'46	8	Civil transport version of C.Mk.VIII
71 Halifax A.Mk.IX	4 Bristol Hercules 100	1945		Airborne support
74 Hermes II	4 Bristol Hercules 120	2 Sep'47	1	Extended fuselage
75 Manx	2 D-H Gipsy Major	24 Aug'43	1	Tail-less research aircraft

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HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 5

Type/Name/Designation	Engine	First Flight	No. Built	Comments
75 Manx	2 D-H Gipsy Major	1 Sep'45	(1)	Retractable undercarriage
80 Victor	2 A-S Sapphire 100	24 Dec'52	2	Heavy bomber prototypes
Victor B.1	2 A-S Sapphire 202/207	1 Feb'56	50	Production aircraft
Victor B.1A	2 A-S Sapphire 202/207	18 Jul'60	(24)	In-flight refuelling. Improved ECM eqpt.
Victor B(K).1A	2 A-S Sapphire 202/207	28 Apr'65	(9)	2-point tanker conversion from B.1A
Victor K.1	2 A-S Sapphire 202/207	2 Nov'65	(11)	2-point tanker conversion from B.1
80 Victor K.1A	2 A-S Sapphire 202/207		(14)	3-point tanker conversion from B.1A
81 Hermes IV	4 Bristol Hercules 763	5 Sep'48	25	Civil passenger aircraft. Tricycle u/c
82 Hermes V	4 Bristol Theseus	23 Aug'49	2	Turboprop civil passenger aircraft
87 Glider	-		1	Scale model of Victor
88	1 R-R Nene	21 Jun'51	1	Crescent wing research aircraft. Also known as Supermarine 521 and Blackburn YB.2
93 Dufaylite Wing				
94 Hastings C(VIP).4	4 Bristol Hercules 106		4	VIP transport
95 Hastings C.3	4 Bristol Hercules 737		4	For Royal New Zealand Air Force
104 Victor B.2	4 R-R Conway Co11	20 Feb'59	34	Re-engined development of B.1
Victor B.2R	4 R-R Conway Co17	1963	(21)	Launch aircraft for Blue Steel missile
Victor SR.2	4 R-R Conway Co11	23 Feb'65	(10)	Strategic reconnaissance conversion
Victor K.2	4 R-R Conway Co11	1 Mar'73	(21)	Tanker conversion
115	1 B-S Viper ASV9	17 Aug'61	1	Narrow delta wing research aircraft
137 Jetstream	2 T'bomeca Astazou XII	18 Aug'67	3	Executive transport prototypes
Jetstream	2 Garr.TPE-331-3W-301A	1968	(1)	Engine change
Jetstream 100	2 T'bomeca Astazou XIV	1968	59	Production aircraft
Jetstream 200	2 T'bomeca Astazou XVI		(1)+1	Engine change. Production taken over by Scottish Aviation Limited
Jetstream 3M	2 Garr.TPE-331-3W-301A	21 Nov'68		Military transport prototype

THE HPR SERIES OF TYPE NUMBERS originated when Miles Aircraft Limited was taken over in 1948. The Reading works had their own design numbers until the early sixties when they were absorbed into the parent company.

HPR.1 Marathon	4 D-H Gipsy Queen 71	May-46	14	Civil passenger aircraft. Initial prototype designed and built by Miles Aircraft
Marathon T.11	4 D-H Gipsy Queen 71	1952	28	Navigation trainer for RAF
HPR.2	1 A-S Cheetah 18	1950	2	Basic trainer prototypes (WE496 & WE505)
HPR.3	4 Alvis Leonides Major	25 Aug'55	2	Civil passenger aircraft
HPR.5	2 Alvis Leonides Major		(1)	Engine test-bed for HPR.3
Marathon	2 A-S Mamba		(1)	Turboprop test-bed
HPR.7 Dart Herald	2 R-R Dart 527	11 Mar'58	(2)	Prototype. Turboprop conversion of HPR.3

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HANDLEY PAGE AIRCRAFT TYPE LIST - Sheet 6

Type/Name/Designation	Engine	First Flight	No. Built	Comments
HPR.7 Herald Srs.100	2 R-R Dart 527	Oct'59	4	Production aircraft
Herald Srs.200	2 R-R Dart 527	8 Apr'61		Longer fuselage
Herald Srs.400	2 R-R Dart 527	1964	8	Military transport

ABBREVIATIONS: H'fax = Halifax R-R = Rolls-Royce A-S = Armstrong Siddeley Br'l = Bristol Wr.Cyc = Wright Cyclone D-H = de Havilland T'bomeca = Turbomeca Garr. = Garrett eng. = engine a/c = aircraft pass. = passenger w'g = wing eqpt = equipment u/c = undercarriage Mil. = military Number built shown thus (2) indicate conversions.

BOULTON PAUL TYPE LIST Originally Boulton & Paul Ltd.; became Boulton Paul Aircraft Ltd in 1934

Type/Name/Designation		Engine	First Flt	No.Blt	Comments
P.3	Bobolink	1 Bentley B.R.2	1917	1	Single-seat fighter biplane (C8655)
P.6		1 R.A.F.1A	1918	1	Two-seat biplane for research (X25)
P.7	Bourges I	2 Bentley B.R.2	1918	1	Prototype (F2903)
P.7	Bourges I	2 A.B.C.Dragonfly	1919	(1)	Heavy bomber (F2903 later K-129/G-EACE)
P.7A	Bourges IA	2 A.B.C.Dragonfly	1919	1	Gull wing; engines on lower wing (F2904)
P.7B	Bourges II	2 Napier Lion		1	Bourges I with engine change (F2905 later G-EAWS)
P.8	Atlantic	2 Napier Lion	1919	1	Civil transport biplane (G-EAPE)
P.9		1 R.A.F.IA	1919	4	Two-seat light biplane (G-EAPD)
P.10		1 Bristol Lucifer	1919	1	Two-seat light biplane
P.12	Bodmin	2 Napier Lion	July 1922	2	Postal biplane, buried engines (J6910/11) Spec 11/20
P.15	Bolton	2 Napier Lion	1922	1	Heavy bomber biplane (J6584)
P.25	Bugle I	2 Bristol Jupiter II/III/IV	1924	5	Heavy bomber biplane (J6984/5;J7235;J7259/60)
P.25A	Bugle II	2 Napier Lion		2	Engine change (J7266/7). Type to Spec. 30/22
P.29	Sidestrand I	2 Bristol Jupiter VI		2	Heavy bomber biplane (J7938/9). Spec.9/24
P.29A	Sidestrand II	2 Bristol Jupiter VI		4	Production (J9176; K1992/4)
	Sidestrand III	2 Bristol Jupiter VIIIF		14	+(1). Engine change (J9176/81; J9185/9;J9767/70)
	Sidestrand IIIS	2 Bristol Jupiter XF		(1)	Engine change (J7939)
	Sidestrand IIIS	2 Bristol Pegasus I.M.3		(1)	Engine change (J7939)
P.31	Bittern	2 Armstrong-Siddeley Lynx	1927	1	Single-seat fighter monoplane (J7936).Spec.27/24
	Bittern	2 Armstrong-Siddeley Lynx		1	Modified nacelles and wing structure (J7937)
P.32		3 Bristol Pegasus	1931	1	Heavy bomber biplane (J9950). Spec.B.22/27
P.33	Partridge	1 Bristol Jupiter VII	1928	1	Single-seat fighter biplane (J8459). Spec F.9/26
P.41	Phoenix	1 A.B.C.Scorpion	1929	1	Two-seat light monoplane (G-AAIT)
	Phoenix	1 Salmson	1930	(1)	Rebuild of G-AAIT
P.64		2 Bristol Pegasus I.M.2	Mar 1933	1	Mailplane biplane (G-ABYK)
P.71A		2 Armstrong-Siddeley Jaguar VI	1934	2	Civil transport biplane (G-ACOX/Y)
P.75	Sidestrand V	2 Bristol Pegasus I.M.3		(1)	Nose turret; became Overstrand (J9186). Spec. 29/33
	Overstrand I	2 Bristol Pegasus II.M.3	3 Feb 1934	(3)	Conversions from Sidestrand (J9179,9185, 9770)
	Overstrand I	2 Bristol Pegasus II.M.3	1934	24	Production to Spec 23/24 (K4546/64;K8173/7)
	Overstrand	2 Bristol Pegasus IV	1935	(1)	Engine change; intended as prototype with retractabl undercarriage for Superstrand (J9770)
P.82	Defiant	1 Rolls-Royce Merlin I	11 Aug 1937	1	Two-seat turret fighter(K8310) to Spec.F.9/35
	Defiant	1 Rolls-Royce Merlin I	1940	(1)	Single-seat fighter conversion (K8310)
	Defiant	1 Rolls-Royce Merlin II	18 May 1939	1	Second prototype (K8620)
	Defiant I	1 Rolls-Royce Merlin II	30 Jul 1939	713	Production
	Defiant IA	1 Rolls-Royce Merlin II	1941		Night fighter conversion

Type/Name/Designation	Engine	First Flt	No.Blt	Comments
Defiant I	1 Rolls-Royce Merlin II	1942	(38)	Air-sea rescue conversions
Defiant I	1 Rolls-Royce Merlin II,45,46	1941	(1)	Single-seat conversion for engine trials (N3514)
Defiant II	1 Rolls-Royce Merlin XX	20 Jul 1940	167	+ 2 conv. Night fighter with engine change
Defiant TT.I	1 Rolls-Royce Merlin XX	Jan 1942	180	Target tug
Defiant TT.III	1 Rolls-Royce Merlin III	1942	(235)	Target-towing conversion of Mk.I
P.92/2	2 D.H.Gipsy Major		1	Half-scale flying model of P.92 project (V3142)
P.108 Balliol	1 Bristol Mercury 30	30 May 1947	1	Aerodynamic prototype two-seat trainer (VL892)
Balliol T.1	1 Armstrong-Siddeley Mamba	24 Mar 1948	3	+VL892 re-engined. Prototypes VL917, 925, 935
Balliol T.2	1 Rolls-Royce Merlin 35	10 Jul 1948	4	Prototypes to Spec.T.14/47 (VW897/900)
Balliol T.2	1 Rolls-Royce Merlin 35		190	Production
Balliol T.2	1 Rolls-Royce Merlin 35		(2)	Hooked for carrier trials (VR596,598)
Balliol T.21	1 Rolls-Royce Merlin 35	Oct 1952	(1)	Naval trainer conversion (VR599)
Balliol T.21	1 Rolls-Royce Merlin 35		30	Production (WL715-734;WP324-333)
P.111	1 Rolls-Royce Nene	6 Oct 1950	1	Research delta (VT935)
P.111A	1 Rolls-Royce Nene	2 Jul 1953	(1)	Air brakes fitted (VT935)
P.120	1 Rolls-Royce Nene	6 Aug 1952	1	Tailed research delta (VT951)

The following were projects only:

P.5 Hawk	Serials C8652/4 allotted
P.92	Twin-engined fighter to Spec F.11/37

Identification Wanted

The Information Services have received a request for identification of an aircraft from Mr. O. Trill who lives in Bavaria which at present defies solution. Between March 1950 and January 1953, a large twin-engined aircraft resembling a Manchester in general appearance flew regularly over a route used by transport aircraft flying between Northern Europe and the Near East. It had two piston engines in small, slender nacelles and sounded like a Convair 340 but with differences which made its engine noise unique. Normal cruising altitude was 18,000 - 25,000 feet at around 300 mph.

In October 1951, this aircraft was seen flying much lower than usual and was seen to be natural finish with no visible national markings. There were black exhaust stains around the nacelle areas of the wing which, itself, had moderate sweepback on the leading edge and a straight trailing edge. The fins and rudders were Lancaster-shaped, possibly rounder in form. The route flown was Frankfurt-Wurzburg - Ingolstadt - Munich North - Salzburg - Villach, roughly corresponding to the later Blue One Airway, which was much used by USAF C-54s, C.121s and B-50s.

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One possibility which comes to mind is that it was a LeO 453 from a Groupe de Liaison Aerienne which used the type until September 1957. The wing shape is wrong but may have been distorted by dihedral giving a wrong impression to the viewer. They also had black undersides to the engine nacelles. We would welcome suggestions. Thunderjets of the 36th and 86th Fighter-Bomber Wings often buzzed these aircraft in 1951.

Whose Mitchells?

Among the aircraft used by Nos.681 and 684 Squadrons in India for reconnaissance during 1943 were Mitchells carrying apparently Dutch serial numbers. No.681 Squadron operated N5-144 "B", N5-145 "C" and N5-148. The last-mentioned was reported missing from reconnaissance flight over Rangoon on 13 February 1943. Another Mitchell used was MA957 (shown as a B-25K) and all three survivors were transferred to No.684 Squadron between September and December 1943. MA957 was coded "Z" and "X" at different times and crashed in the Bay of Bengal on 5 November 1944. N5-145 became "Z". It seems likely that the "N5" aircraft were among the six which ended up at Bangalore when the Netherlands East Indies was overrun by the Japanese.

Hugo Hooftman's book on the Netherlands East Indies Air Force lists a number of B-25s lost in action and this includes N5-144 shot down over the Timor Sea by a Japanese Navy A5M on 18 February 1943. It would seem that this was a transcription error or the Indian-based B-25 got a wrong number allotted. The origins of MA957 are obscure but was presumably ex-USAAF as MA956 was a B-25C ex-41-12666 which arrived in India on 1 July 1943 and was struck off on 26 April 1943. These were the only two MA-serial Mitchells.

The same book shows 22 Mitchells delivered to No.320 Squadron in England out of the 162 ordered but serials FR141-152, 156-183 were apparently also Dutch-ordered (FR148 having crashed on its delivery flight). There is room for investigation here.

Our Hon. Chairman recently received an enquiry which asked for identification of the French flying boat currently parked in a car park in La Baule, Brittany. From details of the markings given, "HL796" and "5O53", it would appear that Sunderland MR.5 ML796 has reappeared.

First delivered to Calshot on 16 May 1945, ML796 was flown by No.4 Operational Training Unit from March to July 1946. Returned to Belfast for refurbishing and the fitment of updated anti-submarine equipment, this boat was redelivered on 4 August 1951 to Aeronavale under a Nato scheme for re-equipping the French naval air arm. After serving with Flotilles 7F (as 7F8), 12S (as 12S1), 27F (as 27F8) and 5OS (as 5OS2), it was struck off charge on 31 December 1961 at Lanveoc-Poulmic and was beached there when last seen by us in June 1962.

Presumably it has been towed round the coast to the seaside resort of La Baule to become yet another aeronautically-based cafe. "5O53" is presumably 5OS3 which was ML764 until struck off on 23 February 1960; ML796 appears to have inherited the code for its last two years in service. The rudder is not in place at present.

As Sunderlands are currently very thin on the ground, we would like to hear from anyone who can confirm or amplify the above.

Missing Sunderlands

Finding a Sunderland reminds us that a trio of Sunderlands remain undocumented.

The prototype K4774 was taken on charge by the Marine Aircraft Experimental Establishment on 11 April 1938 and apparently remained with the Establishment throughout its life. The fate of this Sunderland is obscure as it was offically struck off charge on 21 June 1947. This was , however, simply an accounting date in that the aircraft did not appear on the first post-war audit and was thus presumed SOC without the Air Ministry central records being notified. The last occasion when K4774 is known to us as having been flying is September 1942 when it is recorded as calling at Oban, presumably from MAEE's wartime base at Helensburgh/Rhu.

Two more Sunderlands apparently failed to reach the RAF. These were N6134 and SZ579 which were never shown in any RAF operational records. SZ579 appears in a photograph appearing in Profile No.189 in which it is stranded, but apparently undamaged, on a rocky coast (possibly at Wig Bay in 1946) but N6134 is completely unaccounted for. Possibly it was never built or suffered the same fate as EJ166 did later when it was burnt out at Queen's Island factory before delivery.

Any further information would be appreciated to set the record straight.

No.233 Operational Conversion Unit

Flying Officer D.A. Ingham BSc of No.233 (Harrier) OCU, Royal Air Force, Wittering, Peterborough is seeking details of the OCU during its previous service, particularly photographs.

Formed on 1 September 1952 and disbanded on 1 September 1957, No.233 OCU was a fighter operational conversion unit at Pembrey in South Wales and flew Vampires and Hunters.

Anyone able to help please write direct to Flying Officer Ingham.