Jabberwock

The Magazine of The Society of Friends of the Fleet Air Arm Museum

No. 90
February 2018

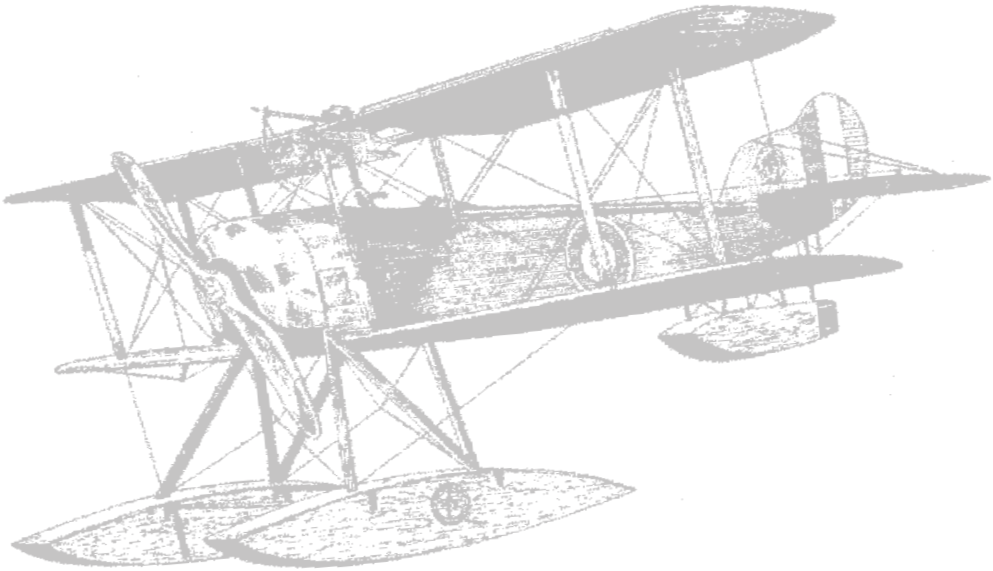
SOCIETY OF FRIENDS
FLEET AIR ARM
MUSEUM

In this issue

Plus all the usual features: News from the Museum, Readers' letters, Snippets from Council meetings, monthly talks programme, latest membership numbers etc.

THE NATIONAL MUSEUM ROYAL NAVY

SOCIETY OF FRIENDS FLEET AIR ARM MUSEUM



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The Society of Friends of the Fleet Air Arm Museum

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Admission
Members are admitted to the Museum free of charge, on production of a valid membership card. Members may be accompanied by up to three guests (one guest only for junior members) on any one visit, each at a reduced entrance fee, currently 50% of the standard price. Members are also allowed a 10% discount on goods purchased from the shop.

The Society has recently introduced a Family Membership Scheme. Details can be found in the Join leaflets in the Museum, also on our website at fleetairarmfriends.org.uk

Note: *These concessions are provided at the discretion of the General Manager of the Museum and could be removed at any time.*

Contributions
We are extremely grateful to all those who contribute articles and material to the magazine, even though it is not always possible to use every item!

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SOFFAAM Secretary (l) welcomes in the New Year at the lunch on 13 January in the Museum

COVER PICTURES
Main Picture: Development SAR version of the AW101 Merlin
Inset pictures, export versions:
Upper - the Portuguese SAR variant. Photo Bronco Valler
Lower - the Danish variant. Photo Martin Laycock

EDITORIAL

We wish all our readers a very happy and prosperous New Year!

The piece entitled "A Minor Mystery" in Jabberwock 89 provoked our largest-ever postbag, revealing the Editor's ignorance of the complexities of WW1 aircraft design. A selection of readers' responses is included in this issue. We frequently remark that the liveliest parts of our magaziine are those provided by readers' contributions. We particularly welcome photographs from personal albums, such as those on page 15. Please keep them coming!

Our cover pictures are inspired by the talk on the Merlin SAR helicopter, given last November by Jeremy Graham FRAeS. A summary of this talk is on page 29. In this edition, we carry details of future talks and visits, which, as you will see, promise an exciting and varied programme. Council member, Rosanne Crowther, who has organised talks and visits for many years, has told us that she wishes to stand down from these responsibilities at the next AGM. Rosanne's skills and experience in this area will be greatly missed, while the Council will need to find a replacement in time for an orderly handover.

Also in this edition, we include another illustrated article from Jim Humberstone, entitled "The RNAS and the Zeppelin Threat". Our Chairman has contributed an article on the remarkable Nares family, several generations of which made varied contributions to Royal Naval life and prestige. All mariners owe a lasting debt to Admiral George Nares, who founded the modern science of hydrography, which enabled the production of accurate naval charts for most regions of the world.

We are sad to relate that founder member and erstwhile Society Secretary, Lt Cdr 'Jan' Stuart passed away before Christmas. Our President remarks: "In earlier days, he had a small printing company and used to print the Society's Newsletter, which was edited by David Kinloch. He made several written contributions to our publications and had a wicked sense of humour."

Society membership continues to hold up and it is gratifying to see the popularity of the recently-introduced Family Membership. Look out for a new and re-designed Joining Leaflet, soon to be available in the Museum. Existing members may wish to consider giving membership of the Society as a pleasing birthday or anniversary gift.

LETTERS TO THE EDITOR

Hello Malcolm,

I've had a quick look into your query on page 35 of Jabberwock concerning the use of four-bladed airscrews on SE 5a aircraft. Now

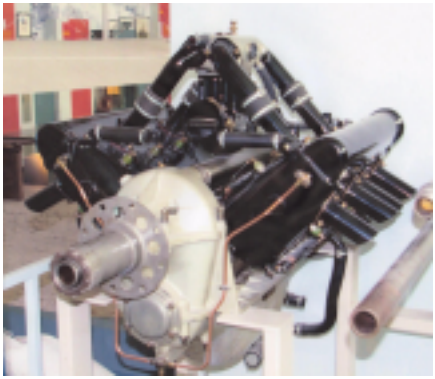
The direct drive Hispano-Suiza 4 series engine, licence-built by Wolseley Motors

this is preliminary information only, which I hope is in the right direction but needs further verification.

• The SE 5a aircraft were variously powered by Hispano-Suiza 8 series geared engines and by Wolsely Viper 4 series direct drive engines. Wolseley also built the 8-series geared Hispano engine.

• The gearbox on the Hispano-Suiza raised the thrust-line a few inches higher than that on the direct drive Wolseley. Have a look at some photos of aircraft and you will see that the propeller boss on the geared Hispano is in line with the exhaust pipe, whereas it is below the exhaust pipe on the direct drive Wolseley. Also, the gearbox reverses the direction of propeller rotation so that Hispano-engined aircraft have LH tractor airscrews versus RH tractor airscrews on Wolseley-engined machines.

• A higher thrust line causes the propeller to pass in front of the (upper) wing-mounted Lewis gun - not a good idea. To overcome this I understand that two actions were taken. Firstly the Foster mount for the Lewis gun was raised slightly and secondly a



The Hispano-Suiza 8 series geared drive engine. The raised thrust line is clearly visible

4-bladed airscrew of slightly smaller diameter was used. In the Profile Publications series Volume 1, J. M. Bruce records the 4-bladed airscrew diameter as 7 feet 9 inches and 7 feet 10.5 inches for the 2-bladed type

- not a lot. Now the most interesting thing is the photograph that you featured. It shows a Hispano-Suiza powered aircraft with a LH tractor 4-bladed airscrew but, and most significantly, the pilot standing beside the aircraft is Hauptmann Adolf Ritter von Tutschek. It was taken on 6th March 1918 after he had shot it down (obviously with not much damage, but all ailerons are hanging down). Its hapless RFC pilot 2nd Lieutenant A. P. C. Wigan of 24 Squadron RFC was captured and spent the rest of the war in Holzminden POW camp in Lower Saxony. I found the photo on Wingnuts Wing website and have included it for your interest.

My sources, apart from the internet, are 'Profile Publications series Volume 1 SE 5a' by J. M. Bruce and 'War Planes of the First World War, Fighters Volume Two' again by J. M. Bruce.

Hope that this is of interest to you?

Regards,
Gil Johnston

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Dear Malcolm,

With reference to the article in Jabberwock 89 about a picture of an SE5/5a with a 4 blade propeller, a quick Google search has uncovered the following:

The French-built versions of the SE5a were fitted with Hispano-Suiza engines. There were some 200 hp geared Hispano-Suiza engines with gear ratio of 2000/1170 (engine /propeller rpm). In order to fully use the horse power, a four bladed propeller was required. A characteristic of the geared Hispano-Suiza was the high thrust lines and round top one piece radiator. Facing the front of the S.E.5a, the propeller turned clockwise.

In addition it should be noted that the Wolseley W.4B "Adder" was a 200 h.p. geared engine and used a 4 blade propeller, T.28096. The "Adder" had problems with the crankshaft.

I hope this helps answer the question.

Regards,
Euan Hardman

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Dear Malcolm,

With reference to the above in the latest Jabberwock, the machine in question is indeed an S.E.5A. Four bladed propellers were fitted to machines powered by geared engines of greater power than those fitted to the S.E.5. The two bladed propeller was fitted to machines featuring direct drive engines. Geared drive engines had a higher thrust-line compared to those with direct drive; this explaining the higher position of the prop when compared with those fitted to the S.E.5.

Thanks for another great mag.

Regards,
Peter Cowlan

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Dear Mr Smith,

I am rising to the bait of identifying the aeroplane depicted. Yes, it is an SE5a! I am sure you are not the first, and certainly will not be the last, to have difficulty unravelling the intricacies of the SE5 and SE5a. I first tried in the `30s as I embarked on a lifetime of studying aviation history; one did not have the marvellous selection of reference books available now. At one stage there was a backlog of over 400 SE5a airframes awaiting engines. It is questionable whether they were all completed to the same specification. It was planned that all SE5as should be fitted with 200 hp Hispano-Suiza geared vee-8 engines, or the Wolseley derivatives, and four-bladed propellers. Quoting from Paul R.Hare's Putnam book "The Royal Aircraft Factory", p.289, "Machines with geared engines, of whatever make, were fitted with four-bladed propellers …" And yet, on the same page is a photograph of an SE5a with a geared engine (prop shaft higher up through the slot in the radiator) but with a two-bladed propeller! I have a photograph of 74 Sqdn. SE5as lined up on their landing ground in France in summer 1918; all four aeroplanes, which can be identified as SE5a in other ways, have two-bladed props.

Yours sincerely
Hugh R Langrishe
(Member No 148)

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By the Editor:

Many thanks to these and numerous other readers who provided similar information, some of which has been edited because of lack of space. Gil Johnston's illustrations are provided courtesy of the Melborne Musem, Victoria, Australia.

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Hello Malcolm

Thank you for the Nov 2017 'Jabberwock 89', as usual very welcome and a very interesting reading.

Just a bit of information and interest in reply to Steve Millin's letter on the original HMS *Eagle.*

In Oct/Nov 1959 I was in HMS *Centaur* (world cruise? We had to turn back as we couldn't get through the Panama Canal) and we were visiting the American Naval Base at Yokasuka in Japan for a couple of weeks. Whilst walking round Yokasuka's own harbour area I saw an old battleship at anchor. She turned out to be the Chilean Navy battleship *Almirante Latorre* (The HMS *Canada* in Steve's letter). She had left Talcahuano, Chile under tow on 29 May 1959 arriving in Yokasuka in September 1959 for scrapping. Her sister ship *Almirante Cochrane* became HMS *Eagle.* HMS *Canada* was returned to the Chilean Navy in 1919/20 and she was the last surviving battleship to have fought at Jutland.

I still have my photos of the battleship but they are only black

and white.

Yours

Derek Poulton (Member No 1758)

Chief I/C Daily running and Maintenance of Museum 1974 to 76

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Dear Editor

I believe this image might appeal to readers, many of whom will have cut their early aviation teeth on a CCF or ATC air-experience flight. Privately owned Percival Provost

Percival Provost T Mk 1

T.1 G-MOOS/G-BGKA/XF690 almost recaptures the 1950's in a quiet corner of the static park at Yeovilton Air Day 2017. Can it really be 60 years since this writer, seat parachute equipped, staggered out across the apron at 6 FTS RAF Ternhill, Shropshire?

Richard Hufton

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Dear Malcolm,

Re: Monthly Talk Reviews No 96 February 2017

Somewhat belatedly I have read this issue review of the monthly talk, and note with interest the talk about that feisty little beast the P531, and nostalgia of my all too short appointment to 700 Squadron RNAS Yeovlton, CO Tony Shaw, kicked in. There, I joined a shipmate from the Training Carrier days, Colin Moorcroft. He introduced me to the projects in hand, including the evaluation of the P531 for potential RN use. After a quick familiarisatlon and a spot of general flying I joined him in the various trials scheduled for the different helicopters in the Squadron.

After the Dragonfly and Whirlwinds, the P531 was more like a Hiller Helicopter - but supercharged and built by Ferrari. I have read that many Spitfire pilots claim that one `wore' the aircraft, and loved it - the P531 was the same; but needed watching! Sadly, prototypes once proved and developed, fade and are forgotten: and so it was with the P531 when the little Wasp appeared in service. I was amazed when I was informed recently, that the Wasp served the Royal Navy well for 25 years.

I had the privilege of being one of the two 700 Squadron pilots who took the P531, first to RAE Bedford and

then to HMS *Undaunted* in 1961. The 'Rolling Deck' was a smallish platform mounted on what appeared to be a fragile 30 foot high frame of scaffolding and encouraged to roll, simulating a frigate's deck. I also seem to remember that once in a hover to land, all reference around you, except greater Bedfordshire, had disconcertingly disappeared from view. The first approach and landing was somewhat alarming; the light and nimble P531 tended to be skittish and it certainly focused the mind.

HMS Undaunted c***onducts Wasp trials in the Irish Sea***

Even though firmly planted she enjoyed dancing and sliding towards the lowest edge of the platform, shredding the experimental pads meant to make positive contact on the deck. As pilots, we became concerned about the wear and tear to the rubber pads after only a few landings and reported that in our opinion they were an unacceptable landing gear. But we confirmed that landing on a small, moving deck was perfectly feasible. It was ultimately decided by the development crew that we would test them further on the frigate's deck. The Irish Sea was unusually at its calmest for these trials. The Captain obligingly "weaved' the ship in order to roll but the tests soon showed that the rubber discs had unacceptable wear, so it was back to the drawing board for the 'Boffins'.

Unfortunately, in April 1961, based at Portland evaluating potential submarine detection equipment for an eventual Wasp, my career as a pilot came to a regrettable, painful and abrupt end. Whilst towing the gear at 300 feet the P531 suffered a tail rotor shaft fracture, lost the tail rotor and went out of control. After briefly proving its total unsuitability for aerobatics, to my entire and frightened dissatisfaction, we crashed violently into the sea off Chesil Beach. When I finally surfaced, I noted that the P531's flotation characteristics were not too good either, and I believe that the production RN Wasp was fitted with flotation bags.

Tragically, my observer Colin McClure, with just six weeks left to serve in the Royal Navy, was lost in the accident.

Brian R Allen

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SNIPPETS FROM COUNCIL MEETINGS

From the December Meeting:

• *The Chairman opened the meeting:*

He welcomed the attendees to this, his first meeting as Chairman. He felt honoured to have been asked to take up this position and hoped to move the Society forward from the very good base established by Richard Hufton.

• *The General Manager gave the following report:*

QEC Play Area.

The Museum has received lots of positive feedback from those using the new play area. We have found on average that families who visit the site now spend approximately 30 minutes more onsite since the launch of the play area. Secondary spend in the Museum café has also increased by an average of 60p per person since the launch of the external facility. This is much needed revenue for the trading company and beneficial to the long term aspirations of NMRN. The success of the outside project in visitor feedback and engagement, coupled with the commercial results seen in the café area so far, will probably steer us towards another potential bid to Viridor Environmental Credits Company in the near future.

Bridge Repairs

The Museum has endured a frustrating few weeks and has been unsuccessful in securing a suitable contractor via tender to commence the bridge repairs over Ocean Way. The works are crucial in the short term and we are working with our structural engineers at Brody Forbes to identify a suitable way forward. It is hoped the Museum will be in a position to re-tender these works in December so that work can be completed as scheduled in the New Year. We will issue further updates as appropriate.

Visitor Numbers

The Museum attracted a good number of visitors during Oct and Nov 2017. This represents a slight increase (3%) compared with the same period in 2016. The Learning Team has had an exceptionally busy October period and this is the main reason for the slight increase.

Events

The Museum will again host the HMS Heron volunteer band for the annual Christmas Concerts under Concorde. The dates confirmed are Thursday 14 December and Friday 15 December. Tickets are £15 and available now from the

Museum website and ticket desk. Tours to Cobham Hall continue to be popular and continue to sell well. Tickets are £12 and available now from the Museum website and ticket desk. The next confirmed dates 7 December (Aero Hall – SOLD OUT) and 8 March 2018 (Aero Hall – tickets available now).

The Museum will also trial an 'open cockpits' event on 18 January – an evening designed to get visitors as close to the collection as possible. This unique opportunity includes the chance to view inside the cockpit of Captain Eric 'Winkle' Brown's famous Vampire LZ551/G, also a chance to sit inside the cockpits of Concorde 002, Westland Wessex 5 and HAS3 Lynx Helicopter. Other locations are the cabin area of 'King of the Junglies' Sea King ZA 298 and view into cockpits of both Harrier GR9 and Hawker P1127, to enable a comparison of prototype and last type seen in service.

Tickets for this privileged access evening are available from www.fleetairarm.com, £40.00 per person.

Museum Opening Hours

The Museum has begun its winter opening routine. All members are reminded about our regular Monday and Tuesday closure. Due to a difference in the South Somerset School Holidays (Christmas) and that of surrounding counties such as Dorset, the Museum will be open for three weeks over the Christmas period. The Museum will open every day from Saturday 16 December to Sunday 27 December, barring 24th, 25th and 26th of December. Opening hours are 10am until 4.30pm. The café will also open daily from 09.30am until 4pm. The Museum will commence Summer hours next year from Saturday 24 March 2018 (South Somerset School Holidays break early).

• *The Chairman gave the following report:*

He drew the attention of the Council to Richard Hufton's last report, in which he identified the aims he had set himself as Chairman. These may be summarised as:

* To stabilise and improve relationships with the Museum
* To rationalise the Society's publications
* To put the talks and visits on to a proper financial footing
* To improve the Society's membership
* To defend the Society's independence.

Graham commented that we had made good progress in achieving these aims, but we needed to turn them into measurable objectives. Although we had a sound Constitution, this did not tell us how to run the Society. He would report more on this subject in due course.

• *The Talks and Visits Manager gave the following report:*

She proposed a visit on the 17th May 2018 to SS Great Britain and Aerospace Bristol.

She had virtually completed the list of speakers for 2018, although firm commitments for talks later in the year had yet to be negotiated.

• *The Membership Secretary gave the following report:*

Membership numbers

Membership numbers have actually fallen for the second time. New membership applications are no longer making up the difference and have reduced in number. Why? For the record, 13 new applications have been received since the September meeting. Of these, 8 have been downloaded from the web site and 5 are from the 'Join' leaflets in the FAAM

e-Jabberwock

The figure now stands at 117 recipients.

Gift Aid

The GA claims for April and August 2017 have been made in August, but were obviously not complete, because HMRC has not responded. A new attempt will have to be made. The membership secretary is endeavouring to find a competent person to do this.

Join leaflet

Richard Macauley circulated the latest version of his design for the leaflet. It was generally agreed that this was an improvement on the existing design. The Chairman asked all to make comments on the design directly to Richard.

Website

The Chairman said the Society's website has an important role to play in recruiting new members. The Secretary, who is also the editor and instigator of the website, showed the Council the latest version. An important function of the site is to advertise forthcoming talks and visits. The Secretary briefly reviewed the videos currently available on the site and explained that they are actually hosted on YouTube, where they can be viewed by anybody who has access to that remarkable resource. The number of views of Society videos on YouTube now exceeded 1000. The Chairman commented that all the talks ought to be recorded on video and that the website played a key part in the recruitment of new members.

• *The Publications editor gave the following report:*

Jabberwock 90 is well underway. The article entitled "A Minor Mystery" in Jabberwock 89 had provoked a sizeable postbag. Gil Johnston had kindly offered to provide material for a future issue in the form of an aviation quiz. There was a brief discussion of the quantities of the magazine to be printed and it was concluded that the print run was, for the present, satisfactory.

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MEMBERSHIP

Standing Order Membership cards enclosed for February, March and April. (Please note that receipt of a card does not confirm receipt of payment.)
Welcome to the new Members who have joined us since the last magazine issue:

3596 Mr R. Hickman	Yeovil, Somerset
3597 Mr J. Morrow	Queen Camel, Somerset
3598 Mr M. Cobb & Family	Dorchester, Dorset
3599 Mrs V. Barlow	Yeovil, Somerset
3600 Mr D. Fisher & Family	Langport, Somerset
3601 Mr R. Thatcher	Corton Denham, Somerset
3602 Mr L. Edwards & Family	Yeovil, Somerset
3603 Mr C. Cherry & Family	Yeovil, Somerset
3604 Mr N. Parker & Family	Sherborne, Dorset
3605 Mr G. Pike	Horsham, W. Sussex

Total members: 1049. Members who have made a Gift Aid declaration: 729

Annual membership £12
Family membership (Up to two adults and up to three children) £32
Life membership £180 (£90 for those over 60)

Members who pay by cheque are reminded to post their renewal fee to the Membership Secretary (see page 2 for his contact details) when it is due. To save on postage, we do not routinely send out reminders. To save this annual task, members are encouraged to pay by standing order.

MONTHLY TALKS PROGRAMME

Talks are usually held in the FAAM Auditorium on the last Thursday of each month (except August and December) at 19.30. Entry price is £7, pay at the door. These events are well-supported and total numbers are limited. To be sure of a place book your tickets on-line in advance at www.fleetairarmfriends.org.uk/monthlytalks, or buy from the Museum shop. Non members are welcome. The price includes light refreshments, including a glass of wine.

22 February 2018
ROYAL NAVY WASP - OPERATIONAL STORIES
Larry Jeram-Croft

29 March 2018
GRIFFONS, MERLINS AND SPITFIRES
Kevin Patience

26 April 2018
BRITAIN'S LAST AIRLINER - THE BAE 146
Stephen Robson

17 May 2018
PROPOSED VISIT TO SS GREAT BRITAIN AND AEROSPACE BRISTOL (Details to be announced)

31 May 2018
DEVELOPMENT OF THE GLOSTER METEOR
Rod Dean, Aviation Consultant

June talk - TBC

26 July 2018
Mr Jack Froelich, BA, FRAes, Stocklinch Aviation
1967 – 1968 "The Caribou" in Vietnam

27 September 2018
AUTUMN SPECIAL IN THE SWORDFISH CENTRE
Paul Beaver, FRSA FRAeS
CAPTAIN ERIC (WINKLE) BROWN'S BIOGRAPHY
Our greatest pilot"

1950s PHOTO ALBUM

Thanks to SOFFAAM member Michael Vertue, who provided these pictures from his father's service in the FAA in the mid 1950s. Left hand column: various views of Fireflies Mk 4. The bottom picture shows ground crew running towards an aircraft with a collpsed right undercarriage leg. Above and behind, the next aircraft to land is seen breaking away. Right hand column, from the top: Heavy weather! Replenishment at Sea (RAS) from a Royal Fleet Auxiliary tanker. The bottom picure is inscribed "Trafalgar Day at Gibraltar". Michael believes this is either HMS **Eagle** *in 1953 or HMS Ark* **Royal** *in 1955.*
Thanks also to Peter Eyre for passing these to us.

In Memory of Motor Minesweeper 1044

By Lieutenant B R Allen RN

In 1952 I joined the Royal Navy as an Aviation Cadet on a short service commission to train as a Fleet Air Arm Pilot. I joined HMS *Indefatigable* and progressed through the shore establishment HMS *Siskin* completing a pre- flight course as a newly fledged Sub Lieutenant and still very new to the ways of the Senior Service. On completion of the course there was a delay of several weeks or so before the Royal Air Force could commence our Ab Initio flying training at RAF Syerston. In their undoubted wisdom, those who serve Their Lordships decided that our wait could be usefully served getting some `sea time` in, so we were scattered amongst the unsuspecting small fleet of Minesweepers at HMS *Vernon,* a Training Establishment at Portsmouth. The Minesweepers provided training for boy seamen destined for a career in torpedo and diver duties as well as any other duties that required a small ship. Some, like 1044, had been resurrected to act as training ships, their crews were largely personnel coming to the end of their service. *Vernon* suffered the somewhat scruffy minesweepers as a cross they had to bear, tied up alongside their immaculate buildings and Jetties; but the young `makee-learnee` torpedo men thoroughly enjoyed their day at sea, plodding up and down the Solent.

To this day, I am not sure that the ships' captains, some of them the only officer on board, were aware that a group of newly ranked and virtually inexperienced young officers, anticipating an exciting life in aviation as a pilot, were about to be thrust upon them, fortunately, only one aspiring aviator per vessel. Thus it was that I joined what appeared to be a happy (more or less) band of pirates under the command of a Lieutenant Commander RN with a mostly RNR crew in Motor Minesweeper 1044. Initially, they regarded my intended ambition to fly as lunacy and the Chief Engine Room Artificer (ERA) who had served in an aircraft carrier, insisted on showing me his scrap book, with photos of horrific crashes on deck. The rest of the crew regarded me as some sort of sacrificial lamb. With the characteristic mind-set of the very young, I was supremely confident that `It couldn't happen to me` and ignored them. (A few years later, I confess, I had my doubts having had several disconcerting `brushes` with that irresistible force - Gravity.)

The minesweeper was a very old boat, well past her prime. Made almost entirely of wood she had been made at the outset of WW2 and had served us well until abandoned to moulder in retirement on Isle of Sheppy's mud banks at cessation of hostilities. Her function had been to sweep the devilish magnetic or pressure activated mines, spread in the shallow estuaries of the rivers feeding our ports, claiming many a much needed vessel. This was done by streaming from a large reel at the stern, a long, rubber coated cable that produced a magnetic field, similar to a vessel, to detonate the mine. 1044 also carried a strange looking rack on her starboard side that, by a manually operated handle, pushed several small tins of explosive over the side. They detonated in succession producing a large explosion, hopefully, astern. They were expected to detonate the pressure detonated mines. They were a very popular device with flocks of seagulls; who enjoyed the stunned fish that surfaced after every explosion. The bangs delighted the boys but were extremely aggravating for our now deafened Chief ERA who, trapped in the already noisy engine room, was in ignorance of the activities on deck. I heard profanities that I never knew existed filtering through the engine room fanlights. Really not too surprising, as old age had done nothing for the watertight integrity of the old ship, let alone that of the Chief ERA.

After several weeks of this fascinating experience, I left somewhat reluctantly to join the rest of my Course at RAF Syerston. Those weeks in small ships inspired in me a lasting affection for small, largely independent units. I was lucky enough to have many such absorbing appointments in my subsequent career as a pilot.

Lt Allen is the author of "ON THE DECK OR IN THE DRINK, Flying with the Royal Navy 1952 - 64"

NEWS FROM THE HISTORIC FLIGHT

Great rejoicing at the hangar of the Royal Navy Historic Flight on 15 September. Sea Fury T20 VX281 returned to the Naval Air Station after a substantial Category 5 accident repair programme, carried out at North Weald and lasting some three years. Many readers will be familiar with the circumstances; a catastrophic engine failure at low level while the aircraft was performing its display at the RNAS Culdrose Air Day in September 2014. The aircraft was saved by the superb airmanship of the Pilot Lt Cdr Chris Gotke, CO of the RNHF, who landed the stricken machine on half an undercarriage, for which he received a well earned Air Force Cross. Unlike the other historic aircraft of the RNHF, VX281 is not on the military register but is a civilian machine, with the registration G-RNHF. It was one of 60 RN Sea Fury Trainers in the 1950s, which flew with 736 and 738 Naval Air Squadrons at RNAS Culdrose. It served with 17 others of the type in Germany, modified to provide target towing facilities for the Luftwaffe, with a subsequent move to the US, from where it was acquired in 2007. VX281 possesses all the aerobatic qualities of its type, and also provides first hand experience for pilots of the Flight's single seat Sea Fury FB11, VR 930.

THE RNAS AND THE ZEPPELIN THREAT

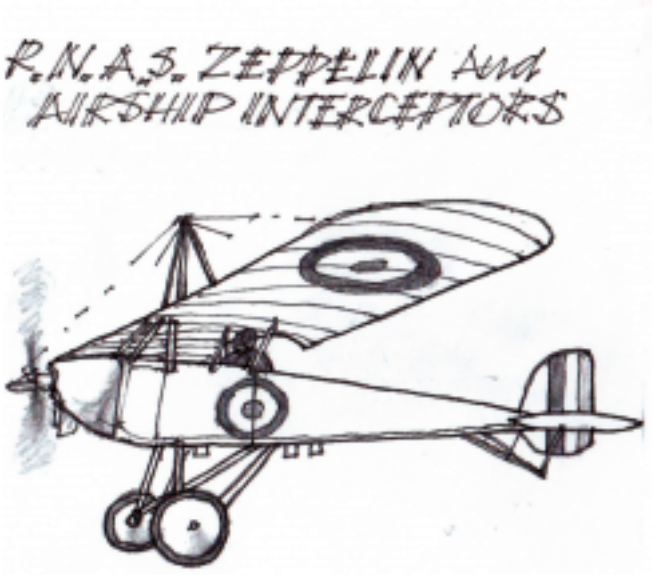
By Jim Humberstone

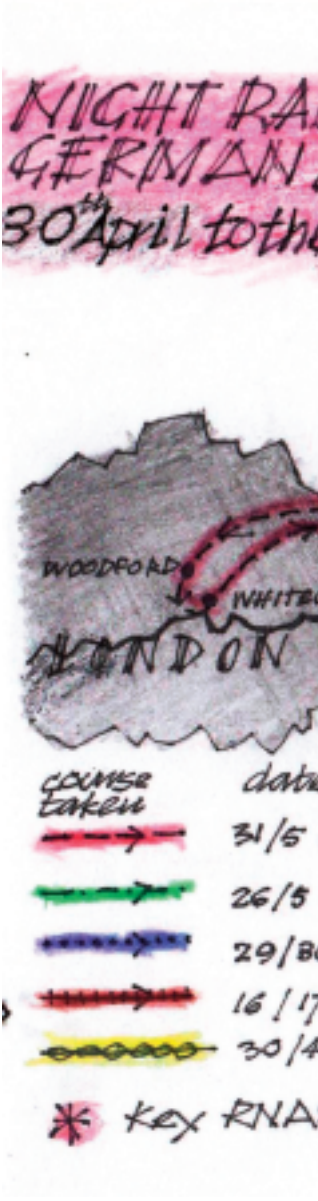
The Zeppelin campaign against Britain was anticipated well before war broke out in August 1914. Zeppelin scare stories began to appear in the press in 1910. Articles titled 'The Airship Menace' and 'Germany: Lord of the Air' predicted that huge fleets of giant airships would appear over Britain and rain death and destruction from the sky. To respond to this threat at the outbreak of war, the War Council clarified the division of responsibilities between the RNAS and RFC. The RFC was needed to fight in France and Belgium, leaving the senior service to provide Home Defence.

German naval Zeppelins were seen as integral with the High Seas Fleet; forming part of a tripartite force of surface vessels and submarines. In1914 the German navy was well ahead of the British in airship development and use. Although lacking in speed, their potential range and endurance gave them a great advantage, while their operational ceiling, usually well above that of an attacking aircraft, made them very effective observation platforms. To counter this threat, the Royal Navy's capital ships and cruisers were equipped with anti Zeppelin flights almost until the end of the War.

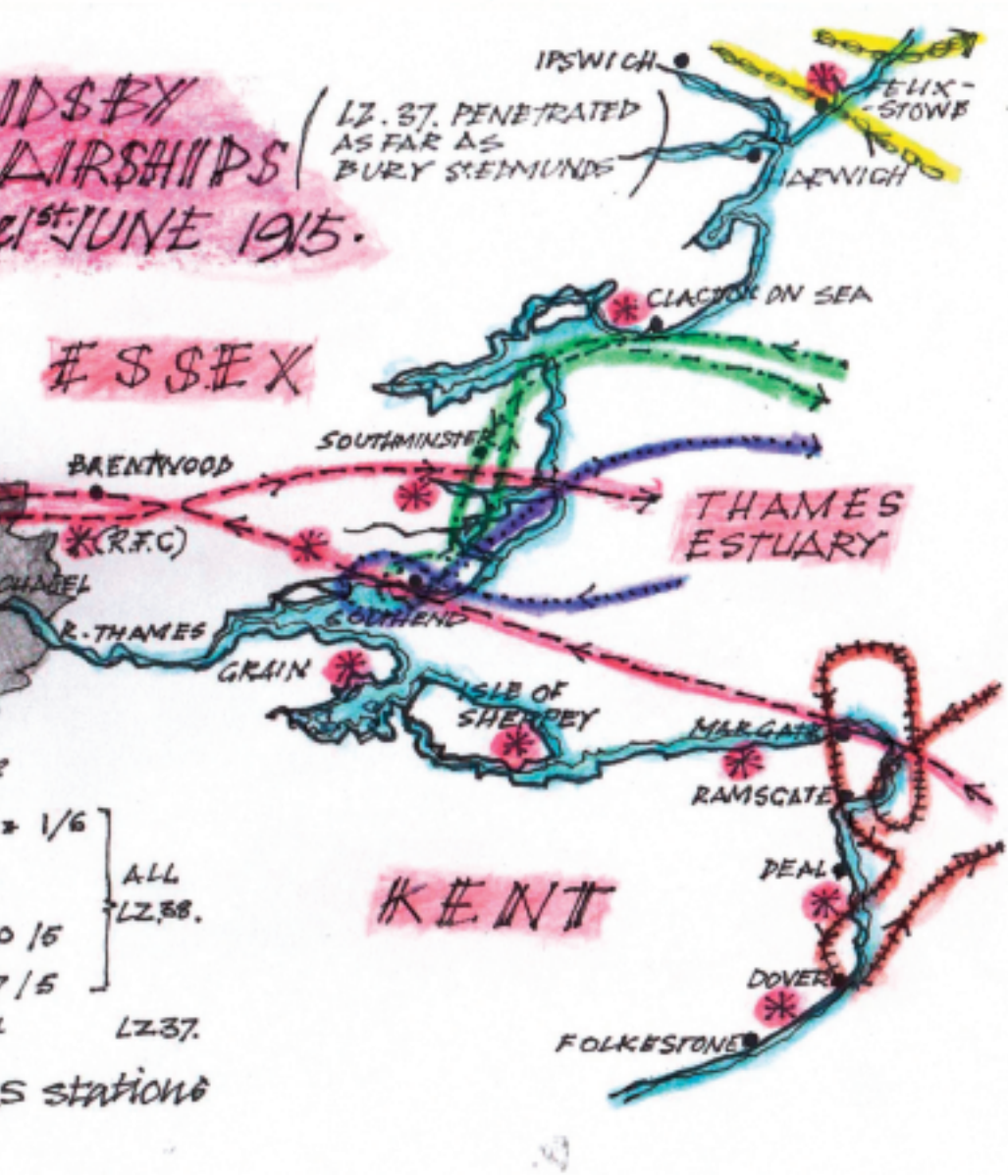
Aware of public apprehension about a Zeppelin campaign against civilian targets; naval operational planners decided to tackle the menace at source, by attacking the machines and their hangars and bases. On 9 October 1914, two officers, Commander Spencer Grey and Lieutenant Marix flew from Dunkirk in their Sopwith Tabloids, each armed with two 25lb bombs, tasked with attacking Zeppelin sheds at Cologne and Dusseldorf. Spencer Grey failed to find his target because of fog and released his bombs on the railway station; but Marix achieved a signal success, destroying the airship shed at Dusseldorf together with Army Zeppelin Z9 inside it. The following month saw an even more ambitious RNAS attack. From their base at Belfort in the Alsace region, three Avro 504 aircraft attacked the Zeppelin Works at Friedrichshafen on Lake Constance with a total of twelve 25lb bombs. Their round trip of some 250 miles took a route that skirted the Swiss frontier, but it is likely that little damage was caused to the base on this occasion.

On Christmas day 1914, three seaplane carriers (HMS *Engadine, Riviera* and *Empress*) each carrying three Short seaplanes and protected by a Harwich based squadron of cruisers and destroyers, set out to attack the Zeppelin base at Nordholz near Cuxhaven. Seven RNAS aircraft were successfully launched in the Heligoland Bight and headed for their





Illustrations by J



Jim Humberstone

target. Due to unfavourable weather conditions, they were unable to press home their attack, but instead bombed Wilhelmshaven and a seaplane base. Only three of the seaplanes were eventually recovered, with the remainder running out of fuel before reaching their mother ships. While the operation had little direct impact on the Zeppelin force, the raid demonstrated the feasibility of attack on shore targets by ship-borne aircraft. Happily, all the crews survived.

A Zeppelin campaign could be a two pronged affair, as both Germany's Army and Navy had airship fleets capable of deployment. Defence against such attacks was discussed by the British War Council in January 1915, at which Churchill reported that ten aircraft would be based at Dunkirk in response to the growing threat as the German army advanced through Belgium and set up forward bases in that country. After the destruction of three airships in attacks on the Western front, the German leadership concluded that success with airship attacks would be governed by two factors. These were the element of surprise and the avoidance of early detection by operating at heights above the effective range of Allied guns and aircraft. Night raids at altitude were therefore called for. At this time, the performance of interception aircraft of the RNAS and RFC was inferior to that of Zeppelins – poor rates of climb, limited endurance and operational ceilings, and primitive armament, militated against destruction of the German airships at high level.

Zeppelin L11 in 'Frisian' camouflage

The first raid of the campaign took place on the night of 19/20 January 1915 involving three Zeppelins. One, L6, carrying the officer in charge of the operation Korvettencapitan Strasser, aborted early on with engine problems. The remaining two, L3 and L4, continued across the North Sea, making landfall on the Norfolk coast. L3 turned south to raid Great Yarmouth where its bombs caused two deaths, many injuries and much

damage to buildings. L4 targeted Kings Lynn. Its attack caused damage to buildings and left in its wake 17 casualties including the deaths of three children. No RNAS interceptions are recorded.

In an abortive attack a month later, on 17 February, both L3 and L4 were forced to land on the Danish coast, resulting in the internment of both their crews. A further setback for the Zeppelin fleet occurred in March when L8 was shot down over Belgium. Finally, in April 1915, an opportunity for the RNAS presented itself, when Army airships LZ 38 and LZ39 attacked Southend with incendiaries. Aircraft from RNAS Eastchurch on the Isle of Sheppey rose in pursuit, but their quarry eluded them and the two airships made their way back to their base at Gontrode.

The following month brought an attack on the capital itself. On the night of 31 May the new Zeppelin LZ38 reached the outskirts of London after crossing the Kent coast and, avoiding anti-aircraft (AA) fire en route, bombed the East End. The toll of destruction in Shoreditch, Whitechapel and Stoke Newington included damage to property valued at several thousands of pounds, with seven civilians killed and many others injured. AA Batteries in Kent engaged the attackers on their inward run, as did guns in Essex as they left. The guns failed to score any hits: the high altitude of the attackers being given as a principal reason for this lack of success. The accompanying map illustrates the very serious extent of airspace penetration.

After this raid, the Zeppelin Commander, Hauptmann Linnarz, reassured the German authorities he had confined his attacks to military and strategic targets, although bomb plots published after the May raid and subsequent incursions showed the lack of efficacy in the Zeppelins' efforts. The rail termini north of the River Thames received some attention, but the London docks escaped unscathed, while the Waterloo and Victoria stations (of great strategic importance for communications to the Channel Ports) came off surprisingly lightly. The night was moonlit but winter conditions and a blacked out capital may have thwarted the bombardiers' aim.

Within less than a week, on 4 June, it was the turn of L9 and L10 to execute a two pronged attack on the Yorkshire coast and the Thames estuary respectively. Two days later, both Army and Naval airships crossed the North Sea. This time, of the two naval Zeppelins setting out (L9 and L10) only the former made landfall. Disaster befell two of the three Army airships. One of these, LZ38, returned to its shed only to be destroyed by air attack in the early hours of 7 June. LZ 37 was famously destroyed by Flight Sub Lieutenant R A Warneford near Ghent when, on a mission to bomb the airship sheds at Berchem, he spotted the airship and attacked it. It exploded so violently that he had to force land his plane. His exploit was the first aerial victory over a German

airship and earned him the first RNAS VC. German airships kept up the pressure, with a raid on the fifteenth of the month by L9 attacking the Tyne area and Northumberland.

Despite the occasional successes by the RNAS, maritime duties were still a priority and most naval air forces were equipped with seaplanes and deployed in coastal stations, . This led the War Cabinet to change the Navy's responsibilities and to incorporate a reinforcing element from the RFC. From February 1916 the role of the RNAS was limited to interception over the sea, while dedicated Home Defence squadrons were set up to bolster the efforts of the AA defences. The following month saw a Zeppelin brought down off the Kent coast as a result of gunfire and interception by aircraft. On the second day of the month, Schutte-Lanz SL 11 was downed by Second Lieutenant Leefe Robinson. The airship fell to earth at Cuffley, north of London, amid jubilant rejoicing and earning its pilot the second 'aerial' VC. These successes appeared to break the sinister Zeppelin spell. Before the year was out, another four German airships had been destroyed by a combination of guns and aircraft. Further raids on London took place that year, in September and October 1916. The campaign continued at low level for the remaining two years of the war, not without losses however. One even fell to the guns of a British warship when L7 was shot down during a raid by aircraft from HMS *Furious* on the Zeppelin sheds at Tondern in May of 1916. Notable aerial successes occurred on the night of 23 September when over Essex, during a raid on London, Second Lieutenant de Bath Brandon succeeded in destroying L33 and Second Lieutenant Sowery downed her sister airship L 32.

L31 suffered a similar fate at the hands of Second Lieutenant W Tempest, the night of 1 October when he was defending the capital at an extreme altitude of around 15,000 feet. His explosive ammunition caused the Zeppelin to crash, a blazing wreck near Potters Bar. A horrific end overtook Kapitanleutnant Mathy, one of the bravest and most inspiring of the airship commanders, who jumped to his death to escape burning. L34 made up a quartet of the L30 series losses when during a raid on the North East in November 1916 she was destroyed over the North Sea by Second Lieutenant I V Pyott, based at Seaton Carew.

By now a network of detection and reporting facilities was in place, ensuring a greater chance of interception. Despite the steady attrition of the fleets through aerial and AA attack, navigation errors, fires and accidents, the German high command stubbornly pursued their campaign "gegen England". Not only were losses replaced by new craft but these increasingly incorporated improvements in performance. These technical developments were countered by more efficient interceptions. On the night of 16/17

June 1917, Lieutenant L Watkins in a BE12 was able to approach and destroy L48 over Suffolk at the impressive height of 12,000 feet.[1]

With the war going badly for Germany, the Naval Zeppelin fleet attempted a last throw against mainland Britain in October 1917. On 19/20th of that month no less than 11 craft crossed the English Coast between Hull and Great Yarmouth. On this occasion the weather took a decisive hand. The planned incursion into the Industrial Heartland of the north of England was aborted as winds veered to the north and increased to gale force. Cohesion was lost with the luckier units eventually heading east. Four craft crashed at locations in Central Germany and the South of France, while one hapless airship disappeared over the Mediterranean to be lost without trace. Although some bombs were dropped on central London, this episode can be seen as just one more tragedy to add to a tally of failures that had afflicted German airship operations.

The most disastrous set back to the German campaign occurred on 5 January 1918, when in the afternoon fire took hold at a new base at Ahlhorn. The fire spread rapidly, finally destroying four Zeppelins and leaving behind just twisted metal, with 14 killed and 100 injured. Like a lot of other hydrogen airship accidents, no firm causes were ever established, and the Ahlhorn disaster remains something of a mystery to this day. Perhaps the final damaging blow to the morale of the Zeppelin personnel fell on 5 August 1918, when L70, the latest state of the art addition to the fleet, was caught near the Norfolk coast by a DH4 crewed by Major E. Cadbury and Captain R. Leckie, and dispatched as a blazing inferno into the sea off Wells-next-the-Sea. As bad luck would have it Fregattenkapitan Peter Strasser was aboard and the Zeppelin force thereby lost its most resolute and respected leader.

The final chapter in the saga of RNAS vs Zeppelin occurred a week after the demise of Strasser and the L70, when on 11 August, having flown off a towed lighter, Lieutenant S D Culley shot down a Zeppelin over the German Bight.

While Zeppelin attacks continued until the last months of the war, a new and in some ways more deadly threat had appeared by the summer of 1917. In a foretaste of the strategic bombing campaigns of later wars, Germany introduced the twin-engined Gotha bomber. These were to carry on the work of the Zeppelins and would require even greater efforts by Home Defence to counter their threat.

The author of this article gratefully acknowledges the major contribution made by material from "Military, Naval and Civil Airships", by D G Ridley-Kitts (History Press 2012).

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1.*Several other airraft were involved in the destruction of this craft, but Watkins was credited with it because he was from a Home Defence squadron and the Government was keen to play up their contribution.*

MONTHLY TALKS REVIEW

Summarised by Robert Heath

October 2017: "Films from the back of the cupboard", by Barbara Gilbert and Phil MacQuaid, FAAM

One of the great features about the film evening is that we know from experience that we will be treated to an insight of film that is going to be unusual and in most instances, not viewed publicly for decades. On top of that, Barbara Gilbert adds a layer of interest and fun, by having a question and answer session at the end of every film. The questions are always regarding details featured in the film and the first correct answer shouted out is rewarded with a chocolate sweet flying through the air to the winner. Everyone will deny taking it seriously, but hells bells it truly demonstrates that the audience is taking it all in and that just about everyone enjoys a choccy. Thank you Barbara. What I did not realise is that the FAAM (Fleet Air Arm Museum), and Phil MacQuaid in particular, had to be quick off the mark to secure and hold on to FAA (Fleet Air Arm) related film stock before the Imperial War Museum grabbed hold of it and buried it in their archives. Thank you Phil for your dedication over the years.

In preparing the programme Phil and Barbara set out to give us variety, history and of course enjoyment. A great many of the films in the archive are simply too long for an evening such as ours. So, what did we see this time? The first film was 'A day with 845 Squadron', a film made to show to FAA families a typical day in the life of members of this Naval Air Squadron. At this time in the 1990s, 845 was flying the Sea King HC4 with black and white Zebra stripes, operating with the United Nations in war-torn former Yugoslavia. The aircraft were based near Split in what was christened 'Steel City' and one of their primary roles was that of casualty evacuation. The film took us through a whole day starting at around 7 am with the catering staff well into their preparations; in parallel the ground crews are preparing an aircraft; followed by briefings covering weather, which ground forces are where, areas of fighting, no-go areas, etc.. In no time, the aircraft is scrambled on an emergency and as on every operation, a medical team is on board.

While all this is happening the remaining ground teams are shown carrying out maintenance, constant training, including weapons drills and so forth. Meanwhile, another team tours the whole area by road to identify and survey emergency landing places. Tours lasted three

months and evidently were very busy, taxing times, but nonetheless satisfying. All this activity was packed into a 15 minute film and we then spent 5 minutes recalling the detail to claim our choccy from Barbara. Smug old me, was the first to make a successful claim.

The next film was a gem for me. I spent many years in shipbuilding and so 'MAC ships' truly grabbed my attention. The best protection for a convoy at sea against U-boats is air defence, but how to achieve it when resources are hard to come by? In 1940, a RN Captain proposed the concept of adapting merchant ships to operate aircraft at sea by installing a flight deck and without interfering with the ship's normal cargo carrying capabilities. It quickly became apparent that oil tankers could be ideal, because they carried very little in the way of derricks and upper structures. This film then took us through the conversion of an oil tanker into a Merchant Aircraft Carrier (MAC ship). It was certainly a well thought out process. Down came the masts, bridge and smoke stack to clear a level space. Sixty three additional crew had to be accommodated, plus an 'Island' (bridge and control areas), extra life boats and rafts, all without disturbing the ship's original function and operation as an oil tanker. In total, the conversion added a further 1,100 tons of weight to the ship. A large part of the new structure, including the deck and gun sponsons were pre-fabricated and installed in complete sections. Impressive. The final deck was just 460ft long, and was fitted with four arrester cables. Seven gun emplacements were situated around the ship. All of this was accomplished without disturbing the ship's 10,000 ton oil capacity. The crew were a mix of Royal Navy and Merchant Navy and the Master continued to be a Merchant Navy Captain.

Following conversion, two weeks were allocated to aircraft landing and deck training before the ship joined its first convoy. This was another highlight of the film as we watched the Swordfish aircraft from 836 NAS being 'batted' on – or not quite at first. Mixed with this was film from the cockpit as we saw the pilot's view of the tiny deck looming up and the miniscule 'batman' signalling manoeuvres to the pilot. Gripping stuff and very sobering.

In all, nine tankers were converted and it has to be remembered that the aircraft (and ground crew activities) remained on deck throughout the entire Atlantic crossing, protected only by windbreak screens. For all that hardship and make-do, only one convoy with a MAC ship escort was successfully attacked. An excellent justification for the concept.

The next film was like R&R by comparison. It was called 'Caribbean Survey' and was filmed aboard the Royal Navy Survey

Ship, HMS *Vidal*. In 1960 *Vidal* was tasked with a hydrographic survey for safe shipping routes off the island of Trinidad – oh, so sunny and balmy. A four month programme was commissioned to examine all the wrecks, rocks and salient features of the marine area. To do this with the necessary precision, Decca stations were erected in several locations ashore against which the survey could be accurately calibrated, triangulated and goodness knows what. The exact positions of the Decca stations were logged and then additional 25 ft high sea beacons were anchored offshore. Everything was done to exact measurement, including the sea beacons which were positioned very precisely using a strong measuring wire paid out from a boat. The setting up alone took many weeks and a Dragonfly helicopter was used to transport people and equipment in a much quicker time than could be achieved otherwise. In all the survey itself took ten weeks to complete and included seabed samples sent to the British Museum, measurement of tides and currents, plus of course the position and depths of obstructions. That is how they come up with all the lines marked on sea charts we are familiar with. Very much a case of low-profile backroom-boys carrying out a vital task.

Taking us back into the air again, the next film was called 'They'll never get it to fly', narrated by Kenneth More who was a former Lieutenant RNVR in HMS *Victorious.* The film followed the history of helicopters from very early fantastical wishful-thinking ideas to properly thought-out proposals that actually worked and sowed seeds for development. Some of the earliest machines are truly comical to watch, with no hint of how they were to be controlled if in fact they did fly. However, people such as Juan de la Cierva and Igor Sikorsky created serious machines that could be flown and controlled. Cierva made some very impressive flights with his autogyro, which was a cross between an aircraft and a helicopter. It had a conventional looking aircraft fuselage with an engine driving a propeller at the front, but the overhead rotor was not connected to the engine, but simply free-wheeled and gave the necessary lift. A great many flights were made including cross-channel and even to South Africa – but though the take-off and landing distances were extremely short, it could not hover. Meanwhile the Belgian funded Russian Florine tandem rotor helicopter was showing great potential; Austrian Raoul Hafner was testing his concept; Germany, with for example the Fw61 helicopter was very successful indeed, but thank goodness, Hitler was not terribly interested in developing the idea for military use; and perhaps better known than many of the above, Igor Sikorsky who

had migrated from Russia to the USA, was going great guns with his designs. He was also a great showman and lost no opportunity to give demonstrations to prove how good and versatile helicopters could be. As a result, the Sikorsky R4 was put into full scale production in 1942. Both the USA and Britain saw the potential for helicopters and it was impressive to watch an R4 operating off the heaving deck of a ship. Helicopters really came too late for practical use during WW2, but they became a familiar sight and sound in the Korean War and of course in Vietnam. The first recorded helicopter rescue was in 1944 in Burma when an R4 rescued the occupants of a crashed L1 Vigilant observation aircraft behind Japanese lines. The first recorded air sea rescue is said to be in 1947, next to Niagara Falls where a woman was recovered after falling in. From there onwards helicopters have fully established themselves and are now indispensable to the military, rescue services and industry at large. Evolution has now given us tilt-wing aircraft such as the very versatile Osprey.

Finally, Barbara and Phil chose 'Sail Navy', which I guess was a short recruitment film showing why people join the navy and how their time will/can be spent. Throughout the film it moved from typical training and operational sequences to leisure activities and then back again. For example, you would see a warship and several members of the crew at their stations, then the bow wave of the warship transposed to the bow wave of an ocean going yacht with the same crew members still working as a team, but at leisure. It made it all look very professional, but with a jolly camaraderie overlaid. If I had seen it as a younger chap, I might have been tempted. I don't know what my wife would have said!

A thoroughly enjoyable evening, albeit with a rather strong helicopter slant, which in fairness does represent accurately today's navy. Sad isn't it. Thank you Barbara Gilbert and Phil MacQuaid for your choice of films and for your dedication.

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November 2017 Talk

"So that others may live" - 'Merlin, the first choice for wide area SAR', by Jeremy Graham, FRAeS

A great joy of the talk evenings is that the speakers do really know their stuff. In this instance, Jeremy Graham modestly informed us that he was until recently Chief Engineer for the AW101 Merlin Helicopter at what many of us still think as being Westland, but is today Leonardo. His theme was its Search and Rescue (SAR) variants and operations. I do rather like the look of the Merlin. It has that pugnacious, purposeful look

reminiscent of the Bristol Beaufighter. What you see is what you get – no messing. But, how did it come about? The first proper SAR helicopter we are familiar with was the Wessex HAS1, derived from the Sikorsky S58. From this, the Wessex HC2 emerged sporting two Gnome engines, which then was improved again to give us the Wessex HAS3, providing the pilots with a usable auto-pilot. Finally the radar equipped Sea King arrived around 1969/70 and continued to provide excellent service until very recently.

Serious planning for a Sea King replacement started in 1975. Its primary role, of course, would be anti-submarine warfare (ASW) in the Atlantic Gap, with the target being Russian submarines, including ballistic missile submarines. SAR would be very much a secondary role. One option could have been to upgrade the Sea King yet again, however, the preferred solution was to create a new airframe. Like the Sea King, this new aircraft would have to be capable of operating from a Type 23 Frigate, or similar. This meant that the size parameters of the aircraft and its rotor diameter were pretty much established. By 1979 the requirements were firmed up. SAR by this time had become a tertiary role, back down the queue. The Merlin concept was a perfect fit for the envisaged roles, but it was expensive, so it was essential to broaden the customer base. In due course several countries have bought and are successfully operating Merlins.

A typical specification for the SAR variant has been a 900 mile range, hover for 30 minutes and still have fuel remaining. When it came to the specification to be met for icing conditions the 'Maximum Intermittent Icing' requirement was for 10 minutes of exposure under specified conditions. The Merlin

RN Merlin crew demonstrate rescue by "double-lift"

coped with 50 minutes under those conditions. This covered rotors, intakes, windscreens (which are heated), while the general airframe ice accretion is determined by its shape. Carrying out icing trials is not easy, the first problem being to find the levels of extreme icing demanded by the trial specification. This was overcome

by flying behind an adapted C-130 Hercules which carried a large water container and spray arms that fed water droplets into the air. When the environmental conditions were right, the ice would form on the Merlin flying in its slipstream and the trials could commence. A lot of planning and patience are required.

A variety of rescue hoists have been trialled and installed to meet specific customer requirements. Some customers require just one, Canada requires one standard unit, plus a smaller back-up, while a US specification required two 'full size' standard units. An enquiry from the United States for a Combat SAR (CSAR) variant introduced several advancements. To quote Jeremy, if the RAF is tasked with recovering people from behind enemy lines, they prefer to sneak in, make the recovery and then sneak out. Not so the USA. They prefer to go in big time, with all guns blazing. Consequently, in conjunction with the US, a CSAR option was developed. To give you some idea of the difference this can make, normally a Merlin tips the scales at 14.6 tonnes weight, whereas in due course the proposed CSAR Merlin weighed 17 tonnes. It was fitted with a rear ramp; carried 3 mini-Gatling guns, one each side and one in the nose (which consumed 135k rounds of ammunition in 10 days); terrain-following radar; two hoists; plus the facility for in-flight refuelling (IFR). This is a fascinating subject in itself. The Sikorsky Black Hawk/Pave Hawk, currently in service with the US military, uses a very, very long retractable probe, designed to ensure that the end of the probe (when extended) is outside the rotor disc. This means that it is quite substantial in diameter, because each length has to retract into the preceding length of tube. By contrast,

"What a long nose you have!" The US-style retractable In-Flight Refuelling (IFR) probe

the Merlin has a, familiar to us, relatively short, fixed probe projecting out from under the nose. Flight trials with a C-130 tanker proved this to be an uncomplicated evolution for the Merlin pilots. It was interesting to watch the trials film, which showed the Merlin adopting a nose-up climb attitude towards the tanker and then on disconnecting, the drogue hose fell away downwards safely. An interesting feature that emerged from these trials was the feasibility of 'wave-riding'. This means that the Merlin could ride in the slipstream of the Hercules and doing so for an hour, for example, saved at least 10% fuel which of course extends the range of the aircraft. I was pleased to hear that RAF variants have the refuelling capability. All in all, the Merlin met

the CSAR requirements, however, politics are constantly lurking in the background and the project was ultimately cancelled along with the US Presidential variant, which was well advanced. It was not an entirely wasted effort though, because a great deal of the development work has been incorporated into subsequent aircraft. The Italian Air Force, for example, has acquired around 15 Merlins based on a specification similar to that for the US.

Norway also had a requirement for an SAR helicopter to meet the demands of its own potentially very hostile environment. The specification called for a 750 mile range; carrying up to 10 people; operating in frequently awful weather conditions; 360° radar coverage (which is not as easy as it sounds, because landings in deep snow prevents antenna being mounted below the fuselage); 'parking sensors' (yes, similar in concept to those in cars) to warn of the proximity of trees, cliffs and other obstacles in confined landing areas; an ability to track and control mobile 'phones used in rescues; and incredibly, a full medical facilities suite, even to enable invasive surgery. Neither Boeing nor Eurocopter were able to meet the full specification, so that Norway ultimately ordered the Merlin. Other foreign buyers of the SAR variant include Denmark, Canada and Portugal. Jeremy gave dramatic examples of rescues undertaken by Merlin variants.

In remote Canada, two men set off in their aluminium boat to go fishing. At 21.20 it all went wrong and they declared an emergency. A C-130 Hercules SAR aircraft was scrambled in the early hours and arrived on the scene to drop a life-raft and other supplies, but visibility was very poor. A second Hercules arrived at around 15.00hrs intending to drop three SAR technicians, who are free-fall parachutists fully trained in advanced trauma life support, but visibility was far too poor to jump safely. The situation was becoming desperate. As darkness was falling the three SAR 'techs' were dropped into the icy waters. It was now 20 hours since the distress call was first made. In the meantime a Cormorant (RCAF variant of the Merlin) was positioning from Gander and flying over very remote open seas to be ready to take its part in the rescue. Refuelling was undertaken from remotely positioned caches of fuel. 25 hours after the distress call was made, at around 23.00 the Cormorant arrived on site, to find wind speeds of around 90kph and wave heights of 10 metres. Nevertheless, the two fishermen and two of the SAR techs were safely recovered from their life-rafts, while, sadly the third SAR tech died before he could be recovered. All of this happened within 10 km of the nearest shore – we are talking about remote Canada and not sunny Skegness!

The Portuguese base their SAR Merlins in the Azores for the very good reason that many of their distress calls come from emergencies

occurring in the Atlantic. One typical occasion was during a Vendee Globe yacht race when a distress was call was received. A competing yacht had capsized and the yachtsman had taken to his life-raft. The Merlin

The survivor's eye view of the rescue helicopter. Note two full size rescue hoists.

was launched at 18.00, flew out to the location in poor visibility and successfully completed the rescue. Those are the bare facts, but the reality behind it is that the Merlin covered 912 nautical miles in total, of which the longest leg was 682 nautical miles and the total time taken was 8 hours 30 mins, mostly on auto-pilot. Visibility was poor throughout, such that the aircrew could not see the surface of the sea until they dropped below the mist level at 100 ft. The sea state was typically around State 5. To achieve such a long cruise time, the aircraft can fly on two of its three engines and light-up the third engine only for slow speed operations.

On another occasion, mentioned in passing, a rescue was undertaken in Scandinavian waters, where the conditions and manoeuvring space was such that a normal approach by the helicopter was not possible and the aircraft was therefore backed-up several km to enable the rescue to made. Facts, figures, anecdotes and superb photographs and film tumbled out throughout this most enjoyable talk. The Merlin has obviously been designed to be a powerful, long range and sturdy aircraft suitable for operation in unduly adverse conditions, and it is good to see that many nations are making good use of it.

One final anecdote that grabbed my attention – albeit non-SAR related, but nevertheless highlighting the capabilities of the Merlin, was that during recent Anti-submarine Warfare exercises, the Merlin was tasked with finding and 'attacking' RN submarines. On each of the 22 exercises the Merlin won. That is good to hear, because I am reading lately that the Russians have significantly stepped up their submarine incursions into foreign waters, so I trust that degree of success will apply equally to their boats.

If you were not at the talk, but could have been, you missed a very entertaining evening. We had a 90+ turnout again and it was well worth it. Thank you Jeremy Graham and to the SOFFAAM team for enabling us to relax, learn and enjoy ourselves.

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THE NARES DYNASTY - GENERATIONS OF NAVAL SERVICE

By Graham Mottram

When the leading Fairey Albacore crashed in flames during a bombing attack on La Senia airfield during Operation Torch, the invasion of North Africa, it carried to his death the scion of four generations of naval officers which stretched back to Nelson's navy. The first generation was William Henry Nares, born in London in 1789. He was the second son of John Nares, an Eton-educated barrister, Bow Street magistrate and Bencher of the Inner Temple. William went first to sea in HMS *Hydra* at the age of 12,

Captain (later Admiral Sir) George Nares. "One of the great explorer sailors of the Victorian Navy."

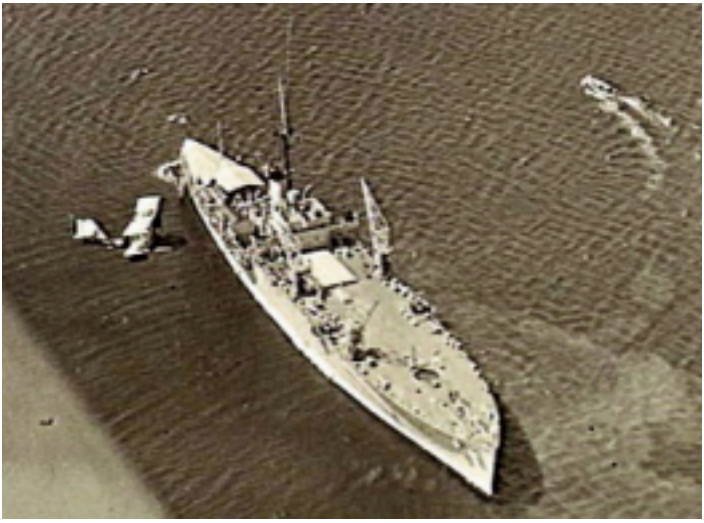
The **Challenger** *Expedition. "... founded the science of oceanography."*

just before Christmas 1802. He had a successful war against Napoleon's navy in the Mediterranean, promoted Commander in 1814 but being placed on half pay at the end of the war. He settled near Abergavenny with his wife Elizabeth but she, and five of their nine children, died in a scarlet fever outbreak in 1836. William moved to Clifton near Bristol and two of his surviving sons, John and George, attended school at Field Grove House in Bitton, a house which was later owned by Noel Edmonds. George then attended the Royal Naval School at New Cross in London, joining the navy in 1845. He went on to be one of the great explorer sailors of the Victorian era, going on Arctic expeditions twice, and leading the *Challenger* expedition which founded the science of oceanography. George Nares was commanding the survey vessel HMS

Newport when he, in the dark and without being detected, threaded his ship through the dozens of vessels awaiting the opening of the Suez Canal. Despite the British having shown no support for that great venture, the Royal Navy thus supplanted the French Royal yacht, *L'Aigle*, carrying Empress Eugenie, and opened the Suez Canal. He was knighted later in his career and reached the rank of Vice Admiral on the Retired List before his death in 1915 at the age of 83. Two of George's sons, George Edward and John Dodd, also joined the navy. G.E. Nares died in 1905, having served as a Hydrographer. John Dodd joined in 1892 and also trained in the specialisation of Surveyor. He spent some time in Australia where he met Adeline Chaffey McIntyre, whose father was Chief Justice of Hobart in Tasmania. They were married in February 1904 and "Lena" accompanied him when he was ordered home in December 1906. Promoted Commander in 1913 he spent much of the First World War in staff appointments in the Hydrographer's Office, until being given command of HMS *Enterprise II,* on the staff of CinC East Indies, to carry out a survey of the Red Sea in autumn 1917. This old steam tug also acted as the flagship of Admiral Thomas Jackson during the Third Battle of Gaza, for which Nares was awarded the DSO. He was then given command of HMS *Merlin* for a survey of the Canton rivers in China before more staff appointments at home, and retirement as a Rear Admiral in April 1931. For much of the time between the wars he worked for the International Hydrographic Bureau. John Nares returned to the naval service in August 1940, serving as a Commander as Naval Assistant to the Hydrographer, and then at Bath as Assistant Hydrographer as a Captain. During this period of his service, John Nares had to deal with the death of his only son. He reverted to the Retired List as Vice Admiral in August 1945 at the age of 68. John and Lena Nares spent much of their later life at the Hotel Metropole in Monte Carlo, where he died in January 1957 at the age of 79. Lena travelled to London a few weeks later and died in Streatham in March 1957. John George Alastair McIntyre Nares was born to John and Lena in 1912 and seemingly predestined to follow his forebears into the Royal Navy. He went to Dartmouth at the age of 14 and served in HM Ships *Tiger* and *Emerald*, being confirmed Sub Lieutenant in 1934. He chose to specialise in submarines, underwent the submarine training course in Portsmouth in 1934, where he made the acquaintance of another young

John Dodd Nares as a Vice Admiral in 1931

officer, David Buchanan Dunlop, and spent most of 1935 serving in L23. Promoted Lieutenant in 1936 he was posted to HMS *Bideford,* in the Persian Gulf, before electing to transfer to the FAA and attending the Observers Course in early 1937.



HMS* Albatros *in 1940, with one of her Walrus aircraft overhead.
Photo AWM

With the outbreak of war and a general shortage of aircraft-carrying ships, the navy cleared out HMS *Albatross*, an ex-RAN seaplane carrier being used as an accommodation ship in Devonport dockyard, and sent it out to Freetown, Sierra Leone, equipped with six Walrus amphibians of 710 Naval Air Squadron (NAS). John Nares was one of the observers and he and his colleagues spent many hours on patrols searching for German raiders and submarines, as well as providing a Fleet Requirements Unit for the naval base. After the fall of France there was great concern as to how the French Navy, which had some powerful modern warships, would align itself. When the battleship *Richelieu* set sail from Dakar on 25 June 1940, John Nares was the observer who shadowed it for some hours before being relieved by another Walrus from the cruiser *Dorsetshire*. By the summer of 1941 Nares was back in home waters with 801 NAS for a short spell in HMS *Furious* before moving to 831 NAS in June 1941 at RNAS Crail, HMS *Jackdaw.* This was a fairly new Albacore squadron and his posting was probably to inject some experience into the many new aircrew in the unit. Nares met an old colleague from pre-war days, David Buchanan-Dunlop who, like Nares, had moved from submarine officer to FAA observer. 831 embarked in HMS *Indomitable* when the ship sailed for Jamaica to work up, and then sailed east to deliver 50 Hurricanes to Java, after which 831 operated from Ratmalana and China Bay in Ceylon.

Towards the end of 1941 Nares returned home in preparation to take command of 822 NAS at RNAS Hatston, HMS *Sparrowhawk*. More importantly, that gave him the opportunity to marry his sweetheart, Marguerite MacFarlane (whose widowed mother lived in Monte Carlo) at Chelsea Register Office in September. By January 1942 he had his own squadron. The unit was re-equipping from Swordfish to Albacores and Nares was a sensible choice after many months experience on the unit's new type. 822 had been allocated to *Furious* as its carrier and John Nares headed up a short embarked period before receiving orders to re-embark in October 1942. The ship was to form part of the Task Force for Operation Torch, the joint British-American invasion of Vichy-French North Africa. It was common knowledge that French forces had been shocked by the Royal Navy's destruction of French warships in Oran and Mers-el-Kebir and that they would probably fight vengefully against a British invasion. Overall command of the invasion was vested in General Dwight D Eisenhower, and FAA aircraft were repainted with American stars en route to give the impression that the British were not involved. The Albacores of 822 were charged with the opening bombing raid of Torch, on the French airfield at La Senia outside Oran on the morning of 8 November. The lead aircraft, BF665, was crewed by Lt. J. V. Hartley, John Nares, and Ldg. Airman Gordon Dixon. John Vernon Hartley was born in Sale in Cheshire in 1916 and his father had business interests in Africa. "Jock" won a scholarship in 1927 and received much of his secondary education at Plumtree School in Rhodesia. His school Roll of Honour records him as having worked at ranching for a while but when he travelled to England on RMS Windsor Castle, at the time of the Munich crisis in 1938, his occupation was recorded as "Clerk". He must have been a gentlemanly clerk because he was successful in gaining a commission in the Air Branch of Royal Navy. In his spare time he played rugby for Rosslyn Park, where his father had played 20 years earlier. He attended a "knife and fork" course at Greenwich, where he captained the RNC cricket team, before a posting to learn to fly on No.5 Pilots' Course. He gained his wings in January 1940 and was posted to the Torpedo Training Unit at RAF Gosport. He had a lucky escape when flying in one of the obsolete Blackburn Shark aircraft used for training. The airfield became blanketed in fog and he elected to force land in the sea. The aircraft's undercarriage hit the water first causing the tail to flip over and Hartley found himself upside down with his head very close to the water. He managed to free himself

HMS* Furious *in 1937,with a flight of Blackburn Shark torpedo bombers overhead. The Shark was soon to be replaced by the Fairey Swordfish

and was rescued to fly another day. By the spring of 1941 he was a member of 810 NAS, flying Swordfish from *Ark Royal.* On May 26, flying Swordfish 2H, Jock Hartley joined the two RAF Catalinas which had spotted and begun shadowing the *Bismarck*. He joined 822 on the same day as his CO, 28 January 1942. (In August, Hugh Alan Leigh "Hal" Tibbets, joined as Senior Pilot. He was a Canadian who had learned to fly in Ontario alongside Hammy Gray, later to win the FAA's second VC of WW2. His seniority was 8 months less than that of Hartley but he may have had more appropriate experience to suit him for the role). Gordon Dixon, the Telegraphist Air Gunner, had already had a busy war. He had joined the navy when he was around 17, possibly straight from school in Mytholmroyd in Yorkshire. As an Ordinary Seaman he trained on No.2A Air Gunners Course at Eastleigh, near Southampton between November 1939 and April 1940. By the summer of 1941 he was Leading Airman Dixon, flying in the back seat of the Fairey Albacore as a member of 827 NAS. In July 1941 the squadron embarked in HMS *Victorious* for a raid on German shipping in the Norwegian port of Kirkenes. The raid was intercepted by German fighters and 827 was badly mauled. Dixon was crewed with S/Lt. R. J. Grant-Sturgis and Lt. W.A. Davies. They managed to escape but not before they had had to duel with both a Messerschmitt 109 and a Ju87 Stuka. Their Albacore was damaged but Grant-Sturgis got them back to *Victorious* and landed on safely. Six of the squadron's aircraft were not so lucky. 827 disembarked to Hatston in the Orkneys to re-equip with new aircraft and train up replacement crews before embarking in HMS *Indomitable* alongside 831 in October. Both sailors and aircrew had a quite enjoyable interlude with the long work up in Jamaica, USA and Capetown. *Indomitable* then moved off into the Indian Ocean to join the Eastern Fleet shortly before Admiral Nagumo's Japanese naval task force began its assault on Ceylon in April 1942. A variety of land-based RAF and carrier-based RN aircraft were despatched to find Nagumo's fleet

from which the shattering air attacks were being launched. The sky was criss-crossed by Japanese fighter patrols and at least two of the search aircraft were shot down by mid-morning of 5 April 1942. Dixon was again flying with Grant-Sturgis, their observer being S/Lt V. W. Jaffray, and left a memoir of their experience that morning, "We sighted the Jap fleet - we could see the outline of the carriers and the battleships. S/Lt Jaffray gave me a signal to send. A simple message, repeated twice, indicating the sighting. It was while sending this message that the Zero made its first attack. At this time we would have been flying at 3,000 feet. At once Grant-Sturgis dived to sea level. The Zero then made a frontal attack. This we evaded by swerving side to side. The pilot fired his forward gun. it then attacked from the rear. I stood up in the cockpit with the Vickers gun and when the Zero opened fire I responded with a burst, while Grant-Sturgis did a tight turn towards the fighter. It was during the second attack from the rear that I was hit in the left forearm and left hip. The fighter engaged us for about 15 minutes, making four attacks from the rear and three frontal ones. All the time we were at sea level. The Vickers gun had a very small bag to collect the spent cartridges, and if this got too full the gun jammed. To avoid this I removed the bag; consequently, when firing, spent cases were flying all around the cockpit. We finally arrived back at the carrier and Jaffray fired a Very pistol, and we landed straight away. The Albacore had been hit by about 40 bullets." On the flight back, Dixon used a screwdriver to prise the bullet out of the muscles over his left hip.

Armourers loading bombs to an Albacore while the pilot keeps his fingers off the switches. Note the extensive obsever's cockpit canopy.

To be continued ...

BOOK REVIEW

By Malcolm Smith

HITLER'S SKY WARRIORS
German Paratroopers in Action 1939-45
By Christopher Ailsby. Published by Pen and Sword

Originally published in 2011, this book provides a well-researched and comprehensive survey of Germany's formidable *fallschirmjäger*, the elite airborne forces who served in almost every theatre of WW2 where German troops were involved. The author describes the emergence of the two types of airborne forces: the parachutists themselves, who after the usual quarrel between senior officers (including Göring) were formed as part of the Luftwaffe; and the airlanding troops, who, although also initially trained parachutists, were delivered to the battlefield in transport aircraft, usually after the landing grounds had been secured by the initial parachute envelopment. The latter were formed as Army battalions.

The book opens with the customary statement that Germany's armed forces were trained and equipped for the concept of *Blizkrieg* – not a term that was much used in Germany at the time. It covers all the major battlefronts and pays particular attention to the occasions when airborne troops were used in their primary role of vertical envelopment. The surprise attack on Holland in 1940 is described as "an outstanding success for Hitler's sky warriors" and included the almost bloodless capture of the fortress of Eben Emael. The conquest of the island of Crete was a triumphant vindication of the concept; with the fast-moving but lightly armed paratroops supported and re-supplied by a steady stream of airlanding reinforcements brought in by Ju52 aircraft. However, says Ailsby, Hitler was so shocked by the scale of the losses that he forbade any more large scale airborne operations. Thereafter, airborne troops were mostly used as elite infantry, to be found wherever the fighting was most ferocious. On the Eastern Front, they earned a reputation for courage and steadfastness, but the sub-title to this chapter is headed "Russia - A force bled white." The daring rescue of Mussolini by an airborne unit headed by Otto Skorzeny is described as an operation that was such a success that not a shot was fired by either side.

"Hitler's Sky Warriors" is most profusely illustrated, showing airborne troops in every location where they fought. Many of the photographs, it is claimed, are previously unpublished, although no sources are attributed. Paratroopers' uniforms and equipment are shown in great detail, as are their distinguishing badges. The book concludes with a somewhat inadequate index, details of orders of battle and a list of *fallschirmjäger* Knight's Cross holders.