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Welcome

Hello and welcome to your August edition of FlyPast magazine. As I write this, the Spring bank holiday has been and gone and I'm reflecting on what was a great weekend at two very contrasting air events. It was good to meet some of you at Duxford's American Air Show while basking in the sight and sound of some wonderful warbirds,

and it was great to attend the Cold War Jets gathering at Bruntingthorpe in Leicestershire, which on first glance resembled a RIAT show from the late 1980s, with some great aircraft on display and in action.

When you think that, in the past decade, nearly 20 classic jets have disappeared from our skies for a variety of reasons, then the achievements of places like Bruntingthorpe need to be applauded. The people who work on the aircraft there are, for the most part, unpaid volunteers who put thousands of working hours into making their events happen. They range from the ex- and current service personnel who crew the reactivated aircraft to those manning the stands at each event while making sure the public has a memorable time.

Without such willing help, there would be no Victor, Hunter, Lightning and Buccaneer to perform amazing fast taxi routines. No sound of Spey, Avon or Conway engines to shatter the peace of a weekend and bring smiles – and

occasionally lumps in the throat – to an adoring and grateful crowd. Next time you're at an event like the Cold War Jets day, go up and actually say "thank you" to some of those faces who made it happen – skinning knuckles on a temperamental Nimrod at all hours or performing endless checks on the systems of a recalcitrant Lightning. They appreciate the recognition, and get pleasure from knowing that their effort is appreciated by you.

At this juncture I must make special mention of the Victor team who allowed me the rare privilege of being on board XM715 'Teasin' Tina' as she performed her crowd-stopping routine. For me, it was the fulfilment of a boyhood dream as I have a well-known weakness for the beautiful Victor, and their kindness and patience throughout was appreciated. So, thank you Bob, Glyn, Mike, Terry and Brendon, the memories will last a lifetime.

I shall be there at the next Cold War Jets event in August, ready to enjoy the sights, smells and sounds of these emblematic aircraft, and I hope lots of you will too. Enjoy your magazine.

Chris Gilson
Editor

Below

Buccaneers are always a popular attraction at Bruntingthorpe. XX900 taxis at the Cold War Jets Open Day on May 29. DARREN HARBAR



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Richard Grace flying Supermarine Seafire III PP972. ©JOHN DIBBS

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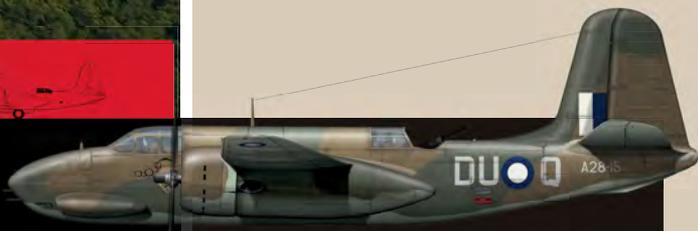
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Douglas Boston



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Messerschmitt makes maiden US flight

Messerschmitt Bf 109G-4 N109GY made its first flight in the US on May 20. It was successfully taken aloft by Rick Volker who has previously flown the Bf 109E owned by Ed Russell. The 'G-4' was restored to airworthy condition in Germany by Meier Motors, and belongs to Jerry Yagen's Military Aviation Museum, based at Virginia Beach, Virginia. www.militaryaviationmuseum.org
PARR YONEMOTO



North American B-25J Mitchell 44-30733 under restoration in Brighton, Michigan.
TONY SACKETOS

Restoration continues on 'Sandbar Mitchell'

A team at the Brighton, Michigan-based Warbirds of Glory Museum is making steady progress on its restoration of North American B-25J Mitchell 44-30733.

Now nicknamed 'The Sandbar Mitchell' due to the location from which it was recovered, it was manufactured in Kansas City in 1944 and received by the USAAF on February 16, 1946. After serving until 1959 as a bomber trainer, it was dropped from the air force's inventory as surplus. Sold in 1960, it joined the US civil register as N9088Z and was converted to fire-bomber configuration.

The Mitchell then flew in Alaska for the Bureau of Land Management fighting fires and dropping ash to break

up the ice on the Tanana and Yukon rivers. On June 27, 1969, it suffered a double engine failure shortly after take-off from Fort Wainwright. Pilot Herm Gallaher carried out a wheels-up landing on a sandbar in the middle of the Tanana.

There the aircraft remained until January 2013 when a team of volunteers led by Patrick Mihalek carefully disassembled and removed it from the Alaskan wilderness and brought it to the museum for restoration. Patrick hopes to return the Mitchell to flying status, and also has a second B-25 in storage - the latter, a former Soviet Air Force machine, will eventually be built to static display condition. TONY SACKETOS
www.warbirdsofglory.org

Hunter delivered to Canadian museum

Hawker Hunter T.7 XL600 was received by the Jet Aircraft Museum in London, Ontario, on May 28. The jet, which formerly flew with the UK-based Midair Squadron, is to be restored to flying condition.

Graham Rawlinson and Simon Pont of the Jet Aircraft Museum purchased the T.7 at an auction in England earlier this year. They dismantled the airframe and imported it to Canada in May. The Hunter will initially be on static

display at Airshow London in September, and should return to the skies in 2017.

Built in 1958, XL600 was delivered to 65 Squadron and has less than 5,000 hours on the airframe. It flew in civilian hands as G-RAXA and G-VETA. Last flown in 2014, the T.7 was undergoing a major inspection when Midair Squadron closed and its three aircraft (two Hunters and a Canberra) were put up for auction. www.jetaircraftmuseum.ca

ERIC DUMIGAN



Hawker Hunter T.7 XL600 shortly after arriving at its new home on May 28. ERIC DUMIGAN

'Focke-Wulf' and Storch arrive at Paderborn



Focke-Wulf Fw 190 reproduction D-FWUB at Paderborn recently.

Two historic aircraft have recently joined the Quax-Flieger collection at Paderborn-Lippstadt airport in Western Germany.

Focke-Wulf Fw 190 D-FWUB is a reproduction built from 1993 to 2006 by an enthusiast in Southern Germany to plans developed by Romanian-born designer Marcel Jurca. It is fitted with a 1,200hp (895kW) Pratt & Whitney R1830 engine, originally used in a Douglas DC-3.

In 2007, the aircraft was damaged in a landing accident and has not flown since. Its new owner - a private collector - plans to return it to the sky this year and hopes to fly it at selected airshows in Germany.

A second, incomplete, Fw 190 is also

based at Paderborn. The structure was reproduced by a specialist, with current owner Jens Grosse-Kampmann adding as many original parts as possible. The result is a largely original Fw 190 without an historic identification plate. Jens also owns a reproduction of a Heinkel He 162 jet, again built largely from genuine parts.

Fieseler Storch 'D-EMAV' is another new arrival at Paderborn, having previously been owned for decades by a family from Lower Saxony. The 1945-built machine was restored in the 1970s as a D-2, the 'ambulance' version of the Storch. It represents the original D-EMAV which flew in Italy from 1941. STEFAN SCHMOLL



Fieseler Storch 'D-EMAV' is a new arrival at the German airfield. BOTH STEFAN SCHMOLL

Airworthy Stinson imported into Britain

Stinson V-77 Reliant NC33543 has been acquired by a UK-based owner, and arrived in the country in late May. The 1944-built machine, previously in Nebraska, US, is now at Oaksey Park, near Swindon, where it is likely to have been reassembled by the time *FlyPast* is published.

A second Stinson, NC69745, flew in the UK for the first time on April 23, having been assembled by Oaksey Park's Classic Aeroplane Company. It is painted to represent 42-46703, an aircraft used by the Royal Navy for U-boat spotting in the Caribbean during World War Two. GEOFF JONES



Stinson V-77 Reliant NC33543 has arrived at Oaksey Park, Wiltshire. GEOFF JONES

Belgian squadron in Spitfire tribute



Marking its 75th anniversary in May, the Belgian Air Force's 350 Squadron adorned the tail fin of Lockheed-Martin F-16AM FA-129 with a 1940s-style camouflage scheme and the squadron code MN-B. This code was carried by Supermarine Spitfire IX MH434 when it served with No.350 in early 1944. The fighter survives and is today operated by the Old Flying Machine Company from Duxford. JOS SCHOOF



Mustang unveiled in 'Red Tails' paint scheme

The Hangar 11 Collection's North American P-51D Mustang 44-72035 has been repainted into the colours of 'Tall In The Saddle', a fighter operated during World War Two by the USAAF's 99th Fighter Squadron, 332nd Fighter Group. Previously flown as 'Jumpin Jacques', it was unveiled in its new scheme at North Weald on June 4. See next issue for more on the Mustang's transformation.

www.hangar11.co.uk KEY-CHRIS GILSON

Vulcan team to restore Canberra to flight

English Electric Canberra B.6 WK163 at Coventry on May 19. BOTH KEY-STEVE BEEBEE



The Vulcan To The Sky Trust (VTST), which famously restored and operated Avro Vulcan B.2 XH558, intends to return another classic jet to flight – English Electric Canberra B.6 WK163.

The aircraft, which joined the Classic Flight (later Classic Air Force) fleet at Coventry in 2000, has not flown since suffering an engine failure in 2007. VTST has now acquired the jet, and plans to transport it to its base at Robin Hood Airport, Doncaster, where, following an inspection, the Trust will develop a plan to make it airworthy. A time frame of around 18 months is

anticipated and money will be raised through several methods, including a pledging scheme similar to that used successfully on the XH558 project.

Speaking at the project's launch at Coventry on May 19, VTST boss Dr Robert Fleming said: "We are going to return WK163 to the air, with the aim of flying for the centenary of the RAF in 2018. Nothing could surpass the Vulcan, but we've chosen to do something unique and relevant to our aviation heritage.

"It still has a lot of structural life, and will be the only Canberra flying in Europe. We hope and expect that its restoration will be much quicker

and cheaper than that of XH558, and safety will, of course, be at the heart of everything we do. We are also looking at the possibility of bringing other relevant aircraft under our wing in the future".

Built as a B.2 by Avro in 1954, WK163 made headlines when a prototype Napier Double Scorpion rocket motor enabled it to attain an altitude of 70,130ft (21,375m) in 1957, a new world record. It was converted to B.6 specification in April 1966.

Thanks to its success in operating XH588, VTST has a proven ability to work on the most complex heritage jets, a track record that will be

especially valuable in light of new CAA regulations governing such aircraft. The Trust also intends to assist other classic jet owners with technical services and advice.

Classic Air Force director Trevor Bailey said he felt a mixture of emotions on seeing the Canberra depart. "I feel both sad and optimistic," he told *FlyPast*. "Sad that an aircraft that has been in our care since 2000 is leaving Coventry, but delighted that VTST will return her to where she belongs – British skies. We wish Robert and the team every success."

www.vulcantothesky.org



The Classic Air Force's Trevor Bailey (left) officially hands over the aircraft to Dr Robert Fleming on May 19.



WK163 climbing under rocket power in 1957. INST OF MECHANICAL ENGINEERS

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Remembering artist Pete West



Pete West. WITH THANKS TO JULIE WEST AND DAVID ATCHINSON

Everyone at Key Publishing was saddened to learn of the passing of longstanding *FlyPast* artist Pete West.

He died in Rotorua, New Zealand, on May 16 following a short illness.

For decades Pete designed the profile artwork and three-way views of aircraft used in this magazine and others, substantially enlivening the look of pages that might otherwise have lacked colour. He quickly established a reputation for detail and had a rarely equalled work ethic. Producing accurate artwork to exacting standards on sometimes short deadlines is tough - but Pete never failed to deliver (you can see some of his work in our Gloster Javelin feature, which starts on page 32).

A Brit living in New Zealand, Pete was an enthusiastic airshow attendee and also provided *FlyPast* with some great event reviews and photography. His extensive and varied output is perhaps all the more incredible given that many years ago he almost died following a horrific road accident caused by a drunk driver.

During his recovery, he survived three heart attacks and needed to have a leg amputated. Typical of his self-effacing, never-say-die sense of humour is the fact that he subsequently altered his email address to begin with the name 'oneleggedpom'. Indeed, during my own

comparatively trivial heart procedure in 2013, Pete was a great source of support and humour.

If anything, the amount of work he delivered, and its quality, only improved following the accident - which, tragically, took the life of his first wife, Julia. Diagnosed with leukaemia last year, Pete decided to retire, but still made it to his favourite airshows, and his photography featured in our pages as recently as May 2016. Our thoughts go to his wife Julie and family, and all those who had the privilege to know and work with Pete. STEVE BEEBEE



IAI Dagger C-415 is unveiled at the Malvinas National Museum on April 2. COURTESY MNM VIA JUAN CARLOS CICALES!

Falklands War jet unveiled for display

IAI Dagger C-415 (S-04) was unveiled at the Malvinas National Museum (Museo Nacional de Malvinas) in Oliva, Argentina, on April 2, having been restored in the colours and markings it wore during the Falklands War. The museum also has English Electric Canberra B.62 B-102 (formerly WJ713), McDonnell Douglas A-4C Skyhawk C-302 and IA-58 Pucará A-58, which has

been reconstructed using the wings of another example, AX-06.

Most of the above flew with the Argentine Air Force (FAA - Fuerza Aérea Argentina) during the conflict and have been painstakingly restored to their 1982 appearance by technical personnel from the FAA's Área de Material Río Cuarto (FAA) working alongside museum staff. JUAN CARLOS CICALES/AGUSTIN PUETZ



New arrivals at Scotland's Morayvia

The cockpit of Hawker Hunter F.5 WN957, acquired by Morayvia. JIM SIMPSON

The Morayvia Sci-Tech Experience Project in Kinloss, Scotland, has taken delivery of two new exhibits.

The cockpit section of Hawker Hunter F.5 WN957 was purchased from a private owner in Stockport, and a team of volunteers at Morayvia will complete restoration work on the exterior. It will then be displayed alongside an Armstrong Whitworth

Sapphire engine currently on loan from Rolls-Royce.

MBA Tiger Cub G-MJSV has also arrived at the attraction, after being rescued from a local scrapyard. It is known to have previously been based at RAF Kinloss, and languished for many years in the flying club's hangar. Now owned by Morayvia, it will be restored to static display standard. www.morayvia.org.uk

JIM SIMPSON

briefings



Heritage expert Ian Flint has been appointed as CEO of Stow Maries Great War Aerodrome Trust. In the past decade he has worked in managerial capacities for several national heritage organisations, including the English Heritage Trust and the National Trust. The Essex airfield will host a Vintage Flying Event on the evening of June 10.

A fundraising campaign is under way to create a memorial at Carnaby in Yorkshire. Now an industrial estate, the land was used in World War Two as an emergency landing strip for bombers. From April 1944 battle-damaged aircraft unable to reach their home bases flew into Carnaby or diverted to it in poor weather. The airfield's busiest day came at the end of January 1945 when 65 USAAF bombers, mainly B-24 Liberators, diverted there after an aborted raid. The airfield remained in use long after the war and was sold for development to East Riding of Yorkshire Council in 1972. For more information on the memorial appeal see: www.carnabyairfieldmemorial.org



Round-the-world Chipmunk flies again

DHC Chipmunk T.10 WP833, one of the 'stars' of our 'Around The World At 90 Knots' feature (see June issue), returned to the air on April 7 after 16 months on the ground, during which its wings were stripped, re-covered and repainted, undercarriage serviced and other smaller tasks completed. The Chipmunk is now privately owned and flies in California as NB33WP.

WITH THANKS TO RICHARD G WILSHER



Super Sabre veterans take to the air

Fifteen former North American F-100 Super Sabre pilots were treated to free rides in Dean Cutshall's Fort Wayne, Indiana-based F-100F N2011V. Over four days in May, each enjoyed a 45-minute flight. Purchased by Dean in 1996, the aircraft underwent an extensive rebuild with Fort Wayne Air Service and emerged in pristine condition the following year. www.supersabresociety.com JAMES P CHURCH

US Sea Fury restoration reaches milestone

Ken and Tom Dwelle carried out the first engine runs in 13 years on their Hawker Sea Fury T.20 (WE820) on May 7 in California - a major milestone in the aircraft's almost decade-long restoration. The aim is to return the former Unlimited Class air racer to near original configuration.

"On the first three attempts the engine was chugging and wouldn't catch," reported Ken. "It was too rich. I was reluctant to open the throttle too much because of the risk of backfire, so we stopped and talked about it. On the fourth try we used more air, less prime and the motor lit right off."

After a smoky first start, the engine ran cleanly and smoothly in subsequent trials. During later runs, Ken also folded and unfolded the wings. By the end of the day a few minor mechanical issues had arisen but were rectified by the following weekend when Ken conducted more engine runs,

bringing the power up to 1,700rpm.

He expects the first flight of WE820 to take place this summer. When the Sea Fury takes to the sky it will be painted in the historically correct silver paint scheme it wore while based at RNAS Lossiemouth in Moray, Scotland, in 1953.

STEPHEN CHAPIS



Ken Dwelle fires up Hawker Sea Fury T.20 WE820 on May 7. ANDY ROBINSON VIA STEPHEN CHAPIS



Graham Buckle and his team are making rapid progress with their restoration of Gloster Meteor NF.14 WS788 at Elvington's Yorkshire Air Museum (also see *News*, May issue). The nose has now been refitted to the Armstrong Whitworth-built jet and a VHF radio is being overhauled to working condition before installation.

The Royal Jordanian Historic Flight has acquired de Havilland Vampire T.55 G-HELV from the Coventry-based Classic Air Force. The jet, which has recently had RJAF roundels applied, is destined for a new home in Amman, Jordan. Most of the Coventry fleet is still available to buy, though English Electric Canberra B.6 WK163 has been acquired by the Vulcan To The Sky Trust (see page 8). Hawker Hunter T.7 XL577, most recently operated by the now defunct Midair Squadron from Cotswold Airport, is also heading to Jordan. Midair's other Hunter (T.7 XL600) was sold at auction to the Jet Aircraft Museum at London, Ontario, while Canberra PR.9 XH134 is still available.

P-51D Mustang destined for the UK



North American P-51D 44-84952 'Sarah Jean' awaiting attention at Midwest Aero. JAMES P CHURCH

Currently awaiting restoration work at Midwest Aero in Danville, Illinois, North American P-51D Mustang 44-84952 *Sarah Jean* has recently been acquired by David Nock who will eventually base it at Halfpenny Green, Wolverhampton.

It was owned for many years by the Northeast Aircraft Association of Wilmington, Delaware, and was only rarely seen in public, with the exception of the annual warbird gathering at Geneseo, New York. In recent years it has changed owners several times, and was most recently based in Alabama.

David has previously commissioned Midwest Aero to finish the restoration of his Halfpenny Green-based North American T-6D Texan 44-81506 (G-TDJN). This aircraft was given the markings of the Raydon-based 353rd Fighter Group, and serious consideration is now being given to finishing the Mustang in the same FG's markings, possibly as *Dallas Doll*. The latter, coded SX-1, was flown by Lt Frank H Bouldin of the group's 352nd Fighter Squadron who scored two 'kills' in it. www.midwestaero.com

JAMES P CHURCH

A-10 is transported to Bentwaters



A-10 Thunderbolt II 80-0219 on its way to Bentwaters in May. SIMON GLADAS-BCWM

Fairchild Republic A-10 Thunderbolt II 80-0219 has arrived at the Bentwaters Cold War Museum in Suffolk following work to dismantle the wings and tail fins at RAF Alconbury, Cambs. The airframe was transported on two low-loaders, the wings arriving on May 23, followed by

the fuselage the following day.

On loan from the National Museum of the USAF, 80-0219 served with the 509th TFS until 1988 when the squadron moved to Alconbury. A year later it suffered damage after it overshot the end of the runway. The pilot safely ejected but the aircraft was written off.

It was installed as a gate guardian at the base following cosmetic repairs.

Due to the width of the load, a police escort was required to hold back traffic throughout most of the Thunderbolt's journey down the A14 and A12. Road works near Stowmarket meant the convoy was forced to divert through the town centre, where it understandably received a great deal of attention.

Museum Vice Chairman Andy Horrex who organised the move said: "After

almost 30 years of UK weather many of the fittings proved extremely difficult to remove but our team persevered. The USAF was very helpful and the police motorcycle riders did a brilliant job to escort us home. Thanks also to H C Wilson Transport for a problem-free deliver."

Reassembly work will take place over the coming weeks, after which the jet will be repainted. www.bcw.org.uk

WITH THANKS TO SIMON GLADAS

Hunter GA.11 makes inaugural taxi run



Hawker Hunter GA.11 WT806 moved under its own power on May 15 at Bruntingthorpe, Leics, following a six-year restoration. Its first public run followed at the Cold War Jets Open Day on May 29 (also see pages 20-21) with the Buccaneer Aviation Group's Ollie Suckling at the controls. The 1955-built jet once flew with the Blue Herons display team and currently wears a Fleet Air Arm paint scheme. JAMIE EWAN

briefings



The fuselage of Cessna 140 N76402 has been acquired by Doncaster-based Greg Wilson who plans to restore it at his home in Carcroft. "After it has been straightened out and fitted out it will be trailer mounted to go to shows like [Newark Air Museum's] Cockpit-Fest," Greg told *FlyPast*. "After that I will be on the lookout for parts to complete the airframe."

Vintage Wings of Canada recently returned its Vought FG-1D Corsair KD658 to the sky, after three years on the ground. Paul Kissman was at the controls for the flight from Gatineau-Ottawa in Quebec, and was satisfied with the machine's handling. It is due to return to display flying later this summer. www.vintagewings.ca

The UK-based Whitley Project has recently had a pilot and navigator's seat refurbished by the Medway Aircraft Preservation Society. Work is now proceeding on fitting the armour plate and upholstery. The project would like to hear from anyone who has Whitley parts. Please email: elliott1940@yahoo.com



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Comet nose arrives at de Havilland museum



The nose section of Comet 1A G-ANAV. The fuselage of Comet F-BGNX can be seen on the left. GARRY LAKIN

The nose section of de Havilland Comet 1A G-ANAV has been donated by the Science Museum to the De Havilland Aircraft Museum at Salisbury Hall, London Colney. *Alpha-Victor* made its first flight on August 11, 1952, from Hatfield, and when a proposed sale to Canadian Pacific fell through it was acquired by BOAC on August 12, 1953.

The British airline later leased the aircraft to South African Airways for the London to Johannesburg route. Along with the rest of the Comet 1 fleet, it was grounded in 1954 following two fatal crashes.

It was one of four Comets delivered

to Farnborough for water pressure tank testing to determine the cause of the accidents. Its fuselage burst during the tests.

The museum plans to re-equip the cockpit of G-ANAV to provide an interactive educational experience for children and young adults.

With all engine starting systems, instrumentation, fuel cocks and throttles operational, a synchronised soundtrack will simulate the starting of all four DH Ghost engines in sequence, along with taxiing and take-off.

www.dehavillandmuseum.co.uk

WITH THANKS TO PETER JEFFERY

Skyhawk reaches new home in Ohio



The MAPS Air Museum in Akron-Canton Regional Airport, Ohio, has received McDonnell Douglas A-4A Skyhawk 139947 from the now defunct Octave Chanute Aerospace Museum. The jet, which had been at the Rantoul, Illinois attraction since 1987, currently represents a US Navy Blue Angels display team jet, but is destined to be given a new paint scheme, the details of which have yet to be confirmed. www.mapsairmuseum.org TONY SACKETOS

Swedish Harvard being restored to fly

Swedish warbird enthusiast and airline pilot Stefan Sandberg has acquired former Flygvapnet (Swedish Air Force) North American Harvard 16029 for restoration to airworthiness.

Stefan was previously the co-owner of Harvard SE-BII, which was recently sold to a UK owner. Originally built by Noordduyn as an AT-16 and delivered to the RCAF as FH148, his latest acquisition was one of 145 sold to the Flygvapnet in the late 1940s. Accepted

into service on June 7, 1947, the type's military designation was Sk16A.

Initially assigned to Wing F 5 for basic flight training, the Harvard was later transferred to Wing F 17. Struck off charge on November 20, 1969, 16029 was one of seven Sk16s acquired by Björn Löwgren. The aircraft remained in storage until purchased by Stefan. No colour scheme has been confirmed, but Stefan promises "it will be spectacular!" JAN FORSGREN

Harvard Sk16A 16029 at Håtuna, Sweden, recently. PETER LIANDER



Dutch replicas put into storage



Less than 18 months after opening, the National Military Museum at Soesterberg in the Netherlands has removed its Brewster Buffalo (pictured) and Curtiss Hawk reproductions from view, and placed them in storage. The exhibits have been replaced in the main hall by tanks. The attraction currently has seven aircraft on public display. www.nmm.nl ROGER SOUPART

Newly restored Noordyn Norseman IV SE-CPB at Sweden's Arlanda Aircraft Collection.
LENNART BERNS



Norseman restoration completed in Sweden

Noordyn Norseman IV SE-CPB has been restored at the Arlanda Aircraft Collection, near Stockholm, Sweden.

Built in 1942, it first served with the RCAF before being acquired by the Royal Norwegian Air Force, with whom it flew as an ambulance aircraft. It 1960 it entered civilian hands in Sweden, flying as SE-CPB for several owners. For a while it was fitted with floats and based in Gällivare.

In 1977 it was donated to the Air Force Museum (Flygvapenmuseum) which

– because it already had a Norseman – transferred it to the Arlanda Aircraft Collection. Led by volunteers, a thorough restoration process ensued. As well as the exterior, the cockpit, instrument panel and passenger seats have all been returned to stock condition.

Although the wings have also been restored, they have not been attached due to lack of space. The collection is run by volunteers and can be visited on Tuesdays, Thursdays and the first Saturday of each month. LENNART BERNS

Jets arrive for display at Italian museum

Two new aircraft have joined the list of display items at the Volandia museum at Vizzola Ticino, close to Milan-Malpensa airport.

Mikoyan-Gurevich MiG-21 94A6911, formerly of the Polish Air Force with whom it was coded 6911, was acquired from a storage yard in Voghera. Although now on display inside, the jet is currently under restoration.

Also new to the attraction is Fiat G.91R1B MM6395, which was previously

on display as a 'gate guardian' at the now defunct missile site at Isola Rizza, Verona. It had been exhibited in a Freccie Tricolori livery with the incorrect serial MM6403 stencilled on the rear fuselage.

After arriving at Volandia, the paint scheme was removed, revealing the markings and codes it wore when serving as 2-16 with 14°Gruppo, 2°Stormo at Treviso. It will be restored into these markings. DANIELE MATTIUZZO

Fiat G.91R1B MM6395 arriving at the Volandia museum recently. DANIELE MATTIUZZO



New owner sought for Percival Prince

The Thunder Air Museum in Lancaster, California, is hoping to find a new owner for Percival Prince N206UP.

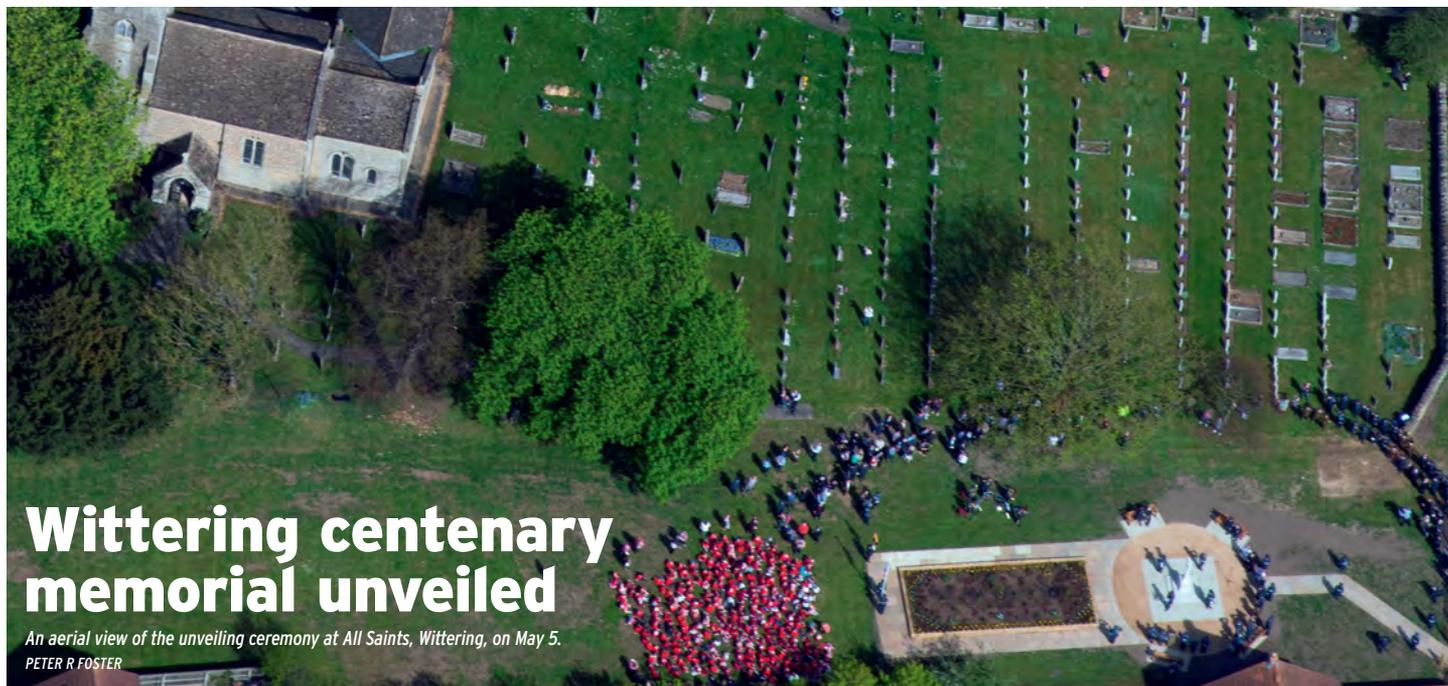
The aircraft is currently on external display at the attraction, but its

condition has suffered due to the hot and dry climate. Originally registered G-ALWH in the UK, it arrived in the US in 1977 and has since passed through the hands of several owners, none of whom flew it.

Current owner Frank Motter would be delighted for it to be returned to the UK and is looking for a static display two-seat Hawker Hunter in exchange. The Prince is now 66 years old and after the scrapping

of Sea Prince WF137 in 2014 is one of only two short-nose Princes in existence. The aircraft is complete and safe for the moment, but interest in it in the US has proved to be very limited. TOM SINGFIELD

Percival Prince N206UP at the Thunder Air Museum in California.
VIA FRANK MOTTER



Wittering centenary memorial unveiled

An aerial view of the unveiling ceremony at All Saints, Wittering, on May 5.
PETER R FOSTER

A new memorial was unveiled at Wittering, Cambs, on May 5 to mark the RAF station's centenary. It was formally dedicated in a service at All Saints church.

Crafted entirely of stone the

memorial is dedicated to all those from the base and the village who have lost their lives due to war. ACM Sir Stephen Hillier, Chief of the Air Staff, joined personnel from RAF Wittering, members of Wittering

Parish Council and residents of the village at the service. Former station commanders including AVM Richard Knighton and Air Cdre Damian Alexander were also in attendance.

The day ended with a sunset service

attended by HRH The Countess of Wessex followed by a flypast. The latter included a Spitfire and Hurricane from the BBMF and a formation of resident Grob Tutor T.1s.

PETER R FOSTER

Pembroke restoration nearing completion



Percival Pembroke TP.83 P66/52 is being worked on at Sweden's Flygvapenmuseum. LENNART BERNIS

Percival Pembroke TP.83 P66/52 is currently under restoration at Malmen's Flygvapenmuseum (Air Force Museum) in Sweden.

Delivered in June 1955 to the Swedish Air Force's F 17 Blekinge Wing as a navigation trainer, it was later transferred to the F 11 Södermanland Wing. The interior consisted of four navigator desks with room for an

instructor. The restored aircraft will have the same interior and will be returned to the colours it wore with the F 11 Wing.

With 3,890 flying hours, the aircraft was withdrawn from the air force's inventory in October 1977 and acquired by the Air Force Collection, which was the forerunner of the museum. It is one of three Pembrokes currently preserved in Sweden. LENNART BERNIS

Composite Harvard acquired by new owner



The Aircraft Compagnie at Hembrug in the Netherlands has taken delivery of North American T-6 Harvard 'FE876'. The aircraft is a composite, created from several former Royal Netherlands Air Force machines, among them B199 and B69 - the completed example represents the latter. It had previously been at the National Museum of War and Resistance in Overloon. ROGER SOUPART

briefings



On May 4 a ceremony was held to mark the centenary of naval aviation in Argentina. The event, at the Base Aeronaval Punta Indio, Buenos Aires, was chaired by the Minister of Defence Julio Cesar Martinez, and ended with a flypast consisting of five T-34C Turbo Mentors and N2S-3 Stearman LV-IYS, the latter an ex-US Navy machine. ESTEBAN BREA



Aeronca 7AC Champion SE-CNB has recently become an unlikely display item alongside the A4 highway near Schiphol. Brightly painted and bearing the fictitious serial 'PH-WW062', the 1957-built machine is on temporary display. It cannot be approached on foot and it's not known how long it will remain at its current location. ROGER SOUPART

2016 TOUR PROGRAMME

- 15-19 Sep **CZECH REPUBLIC:** NATO & Czech Air Days Airshow. Fabulous international participation. Arrivals Day and both airshow days
- 18-24 Sep **BULGARIA:** aviation museums, collections and aircraft on poles etc
- 21-27 Sep **NORTH KOREA & CHINA: LONG WEEKEND:** Air Force and Air Koryo 2-day airshow. Flying Finnair **A350-900**; Air Koryo **IL-62** & TU-204. Optional flights in other Soviet-era airliners. Maximum participation by air force in static display and flying programme. Two aviation museums in/around Beijing area and optional sightseeing. Fully inclusive price.
- 21 Sep-2 Oct **NORTH KOREA & CHINA: EXTENDED TOUR:** as above but with sightseeing and flights Soviet airlines and Mil helicopters. Five aviation museums in/around Beijing and sightseeing. Fully inclusive price.
- 17-28 Nov **FALKLAND ISLANDS (via Chile):** Battlefield tour including 3 flights in FIGAS Islanders around West Falkland. Plus time for local wildlife.

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Maiden UK flight for Argentine 'Avro'

Avro 504K reproduction G-EROE (formerly LV-X430) *Olivia* made its first flight in the UK on May 6 at Sywell, Northants, in the hands of Matthew Boddington.

It was built by Argentine company Pur Sang Aerohistoric, and was the second example to fly after LV-X373. The latter flew for the first time in February 2009, with *Olivia* making

its maiden flight in November 2010. The Aerohistoric aircraft represent two of the machines built by the Fábrica Militar de Aviones (Military Aircraft Factory) of

Córdoba, which manufactured the type from 1928. Still owned by the Argentine company, *Oscar-Echo* is operated in the UK by Eric Verdon-Roe.



Avro 504K G-EROE 'Olivia' flying from Sywell in May. WITH THANKS TO MATTHEW BODDINGTON

'Lake Swiblo' Bf 109 rebuild well under way

Midwest Aero Restorations of Danville, Illinois is continuing to restore Messerschmitt Bf 109G-6 410077, which was recovered from the depths of Lake Swiblo in Russia in the early 1980s.

A major milestone was reached recently when the wings, which require extensive rebuilding, were fitted into newly constructed jig fixtures to facilitate the work.

Much of the structure is intact and will be incorporated into the completed wings, though combat damage and corrosion will necessitate replacement of some internal parts and skins.

The team is striving to adhere to original German material and

build specifications including use of original style rivets and hardware, along with the correct thickness and grades of aluminium. Some portions of the restoration are being 'farmed out' to other specialist firms who have had previous experience with the type, including the fuselage, which is currently with Hartmair Leichtbau, near Munich, Germany, for structural repairs and re-skinning.

The Daimler-Benz DB605 engine has been sent to Mike Nixon of Tehachapi, California that has already rebuilt several of the type to airworthiness. In time, all these components will be gathered together at Midwest Aero for final assembly and completion to flight status for owner Dr



The starboard wing of Messerschmitt Bf 109G-6 410077 at Danville, Illinois. JAMES P CHURCH

Bruce Winter. The rare fighter will eventually be based at San Antonio, Texas, alongside the owner's North

American P-51D Mustang *Happy Jack's Go Buggy*, which was also restored by Midwest Aero. JAMES P CHURCH

briefings



A ceremony was held on May 26 at a new memorial garden on the site of RAF Ingham in Lincolnshire to remember and honour all those who served at the base during World War Two. The event was organised by members of the RAF Ingham Heritage Group which is also aiming to restore the station's airmen's mess and other structures. HOWARD HEELEY

Following the advert for the Gold Beach Museum at Ver-sur-Mer, France, published in our June issue, the attraction's Vice President Geoff Leese contacted us to point out that the museum covers two momentous events that occurred in the Normandy village during the last century. As well as highlighting the British D-Day landings on Gold beach, it also takes a look at the ditching of the first transatlantic mail flight, the *America*, on July 1, 1927. Visitors to the museum can see remains of the Fokker Tri-Motor, plus explanatory displays, and a short film about the incident. www.goldbeachmusee.org.uk

USAF unit restoring Workhorse helicopter



Around 20 volunteers from the USAF's 314th Airlift Wing are restoring a Piasecki H-21 Workhorse helicopter to static display condition at Little Rock Air Force Base in Jacksonville, Arkansas. It is destined to be installed at the nearby Heritage Park this summer.

Mark Wilderman, a 314th Airlift Wing historian, came up with the idea of restoring the helicopter when he discovered his unit flew them in the late 1950s. The H-21, previously at Kirtland in New Mexico, arrived at Little Rock on April 5, 2016.

"It's little known, but is a significant piece of our history," said USAF MSgt Matthew Tabor, the 314th Airlift Wing's quality insurance chief inspector. "Everyone sees the 314th and automatically thinks of C-130s, but we've been doing troop-carrying for a long time and this is a big piece of that." WITH THANKS TO SENIOR AIRMAN STEPHANIE SERRANO

Airmen from the 314th AW apply a finishing coat to the unit's Piasecki H-21 Workhorse at Little Rock on May 12. COURTESY STEPHANIE SERRANO

Aviation art to be showcased at the Mall

The 46th annual exhibition of the Guild of Aviation Artists Paintings of the Year opens on July 18 at London's Mall Galleries.

This year 142 artists from all over the world will showcase more than 400 original works. These represent all aspects of aviation and its personalities from the dawn of flight to the present day. Both painting and traditional drawings will be on display.

Newly elected chairman, Andrew Latham GAvA, said: "I am delighted to have such strong support from so many talented artists. I am also grateful to all those who help us put on such a prestigious exhibition of original artwork. I'm sure it will prove to be a stunning show in July, a celebration of original aviation art in all its forms – one not to be missed."

Admission to the exhibition is free and it's open to the public from July 19 to 23. www.gava.org.uk



D-Day veterans honoured at Yorkshire Air Museum

Twenty-one veterans of June 1944's Normandy campaign were presented with the Légion d'honneur on May 22 at Elvington's Yorkshire Museum. The attraction's recreated Handley Page Halifax 'Friday the 13th' was a symbolic backdrop – the original aircraft took part in raids on the Normandy coast in the build-up to the invasion. www.yorkshireairmuseum.org

New home for museum's Hercules



The latest aircraft to be moved from the now defunct Octave Chanute Air Museum is Lockheed C-130A Hercules 55-0037, which has been acquired by the Museum of Missouri Military History. The 1957-built machine was one of the first of its type to be made at Lockheed's Marietta, Georgia factory, and served with the USAF at bases in Japan before returning to the US. It arrived at Chanute Air Force Base in Rantoul, Illinois in 1984. TONY SACKETOS



The Spanish Air Force Museum's McDonnell Douglas RF-4C Phantom CR12-42/12-5 is receiving a new camouflage paint scheme in Madrid. The former Ala 12 jet originally flew with the USAF as 65-0937 prior to being delivered to the Spanish Air Force in November 1978. Based at Torrejón, it was withdrawn from service on March 11, 1991. ROBERTO YAÑEZ



The Rhinebeck Aerodrome Museum's reproduction of Ryan NYP Spirit of St Louis made its first public flight on May 21. Around 600 spectators gathered at the New York airfield to witness the flight on the 89th anniversary of Lindbergh's landing in Paris, following his 1927 transatlantic journey. www.olderhinebeck.org

Full Throttle

The peace was shattered at Bruntingthorpe airfield on May 29, as it held its first Cold War Jets event of the season. FlyPast Editor **Chris Gilson** was there

Despite a very chilly start, thousands of aircraft enthusiasts turned up at Bruntingthorpe in Leicestershire for its biannual Cold War Jets (CWJ) spectacular. The event featured a variety of classic aeroplanes, plenty of fast taxi runs along the former Strategic Air Command base's two-mile

runway, and naturally lots of noise as well.

There were minor changes to the running order, as opening Hawker Siddeley Nimrod XV226 became unserviceable despite a herculean effort to get it running, and the PZL TS-11 Iskra also remained unavailable.

The revised programme began

with former RAE English Electric Canberra B(1)6 Mod WT333, and encompassed such popular types as the Hunter, Buccaneer, Victor and Lightning.

A flypast by a Battle of Britain Memorial Flight Spitfire was another crowd pleaser although it was not joined by a planned Hurricane. The day closed with an

impressive run from the Vickers VC-10 K4 ZD241 just as the sun came out. During its taxi, the aircraft contained a specially selected group of passengers.

A second CWJ day will be held on August 28, giving lovers of classic jets another chance this year to savour the sights, sounds and smells of their favourite aircraft.

Top right

Three Jet Provosts took part in the day's activities, including a three-jet fast taxi routine. Nearest the camera is T.3A XM365.

Right

Nimrod XV226 was unable to take part in the show, despite a great effort from its crew. It remained on display throughout the day.



Soon to be added to the list of live aircraft at Bruntingthorpe is Panavia Tornado GR.1 ZA326, which still carries its RAE colour scheme and QinetiQ markings. ALL DARREN HARBAR



The four Rolls Royce Conway engines of Handley Page Victor K2 XM715 enthral the crowd as it turns to begin its fast taxi run. Captained by Bob Tuxford, XM715 remains a popular performer.



Of all the aircraft at Bruntingthorpe, the most eagerly awaited is the English Electric Lightning. With reheat engaged, F6 XR728 makes some noise as it starts its display.



The trademark plumes of smoke branch out from Canberra B(1)6(Mod) WT333's engines upon starting. The aircraft recently celebrated its 60th anniversary.

United Through Flight



The flightline at Duxford on May 28.

Duxford's airshow calendar opened with a two-day salute to Britain's American allies.

Photography by **Darren Harbar**

Those great enemies of British airshows - overcast skies and blustery wind - afflicted the American Air Show at Duxford on May 28 and 29, but it nevertheless included a varied and interesting flight programme, albeit with a few omissions.

The weekend's events celebrated the recent reopening of the transformed American Air Museum, and included a Bell Boeing CV-22 Osprey from Mildenhall's 352nd Special Operations Wing on the flightline

and (on Saturday) a flypast from a USAF Boeing KC-135 Stratotanker.

The show began with a typically dazzling display from the Alpha Jet-equipped Patrouille de France, and various warbirds - including Spitfires, Mustangs, a Corsair, P-40 and Wildcat - also took to the skies over the weekend. Aérorétro's Mitsubishi A6M 'Zero' replica - a heavily modified North American T-6 Texan - was another interesting participant at a show that whetted the appetite for the remainder of Duxford's flying season.



The Fighter Collection's Grumman FM-2 Wildcat (top) and Curtiss Hawk 75 on May 28.



Aérorétro's Mitsubishi A6M 'Zero' replica was one of the show's star performers.



Supermarine Spitfire I N3200 at Duxford's American Air Show.

A pair of Douglas C-47 Skytrains from Aces High and Dakota Heritage Ltd.



Chipmunk's Big Day

An Anniversary Fly-in at Old Warden marked a significant birthday for the ever-popular DHC Chipmunk. **Darren Harbar** reports

On May 22 a special event was staged at Old Warden to celebrate the 70th anniversary of the DHC Chipmunk's first flight.

Although not all the aircraft were on the ground at any one time, and some were only present in the air, 49 airworthy examples of the famous trainer were in attendance. The number rises to 50 if you include the Shuttleworth Collection's own Chipmunk, which was receiving some maintenance work in the hangar.

The oldest Chipmunk currently flying in the world - G-AKDN - was

among the visitors. A pre-production DHC-1A, it was discovered by current owners Dave and Karen Gillespie at Bagby in Yorkshire. The couple, who are based in Saskatoon, Canada, are spending the summer flying the historic machine around the UK.

There were also several special guests in attendance, including Sonja Fillingham whose late husband Pat flew the prototype Chipmunk (CF-DIO-X) from Downsview, Toronto on May 22, 1946. The highlight of the day was a mass flypast, with participants forming the number 70 in the sky (see *Finals*, page 122).



DHC-1 Chipmunk WP870 (G-BCOI) was among the 49 attending aircraft.



DHC-1A Chipmunk G-AKDN flying over Old Warden on May 22.



Some of the many Chipmunks at the Anniversary Fly-in. ALL DARREN HARBAR

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HERITAGE Treasure Trove



Steve Beebe enjoys a tour of the prestigious Oliver Collection in Cheshire, which now includes an exciting pair of warbird restoration projects

As Mark Oliver opens the roller door and invites *FlyPast* into the hall that houses his family's private collection, it's hard not to take an audible intake of breath. There are two large rooms at the Oliver's premises in Knutsford, Cheshire, each full of astonishing aeronautical and automotive splendours – the fruits of a genuine passion for engineering and heritage.

Mark and his father Michael run the successful Oliver Valves on Knutsford's Parkgate Industrial Estate, but when not concentrating on the business they've focused their efforts on preserving and restoring vehicles, engines and aircraft. They've also collected a remarkable cache of memorabilia, ranging from a menu signed by the Dambusters to German and British military uniforms. Perhaps the most famous non-aviation item in the collection is a 1912-built steam traction engine formerly owned by the late Fred Dibnah.

Acting as a 'gate guardian' (because it is simply too big to

be brought inside) is Panavia Tornado GR.1 ZA399, a jet that flew 15 strike missions in Operation Desert Storm. It too has a connection with the Dambusters – in service with 617 Squadron it was given the tail code AJ-C to honour one of the Lancaster crews that did not return from the legendary Ruhr raid. The Tornado was immaculately restored by Yorkshire's Jet Art Aviation before being acquired by the Oliver's.

Inside the main hall, the eye is quickly drawn to a full-size replica of a Supermarine Spitfire Vb and, suspended from the ceiling, a once-airworthy reproduction of a Sopwith Camel. The former was

completed in 2008 by members of the Ripon branch of the Royal British Legion, which used it to tour the country raising money for the charity. The superb replica is painted to represent W3850 PR-A, the 609 Squadron fighter flown by P/O Joe Atkinson, later Flt Lt Sir Joe Atkinson KCB CB DFC.

"My father started the collection, mostly with cars, but that led us into other areas, and we got hold of the Spitfire replica from Linton-on-Ouse," says Mark. "The next thing was the Sopwith Camel, which I brought over from the States. We had it built up by Flight Engineering, now based in Leeds. With those two, it was obviously a



Above
The Oliver Collection's main room
in Knutsford. ALL AUTHOR

Left
Mark Oliver with Spitfire II
P8088.

good start to any collection, but then this Harrier T.8 came up at Everett Aero so we couldn't resist buying that. The Tornado followed, and as we had a bit of room we decided to get a Jet Provost too."

The Harrier - ZD992 - has pride of place alongside the Jet Provost (T.5A XW330) in the Olivers' second room. Also on show here are examples of Rolls-Royce

Pegasus, Olympus, Spey and Griffon engines, among many others.

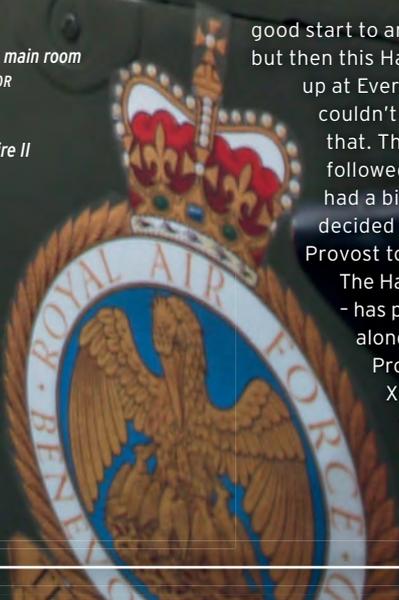
An oddity, with an interesting history, is Westland Scout 5XUUX. "It's one of two that went to the Ugandan police force," explains Mark. "One crashed and this is the survivor. It was often used to fly Idi Amin around the country, but whether it was this one that he allegedly used to push people out of, we don't know!"

Luftwaffe legend

In 2012 two very significant World War Two fighters joined the collection - Supermarine Spitfire II P8088 *The Borough of Lambeth* and Messerschmitt Bf 109G-2

Yellow 12. Both are to be restored - the former has the potential to fly again, while the latter will be rebuilt to ground-running status. The exciting prospect of owning two running warbirds arose when serviceable Merlin and Daimler-Benz units were obtained from specialist restorers Retro Track & Air and a private collector.

The Bf 109 - which is currently stored in boxes and cannot be photographed - was acquired from well-known warbird recovery specialist Jim Pearce. "I'd been speaking to Jim for a long time, and finally I went down to Worthing where he's based and we did a deal," says Mark.



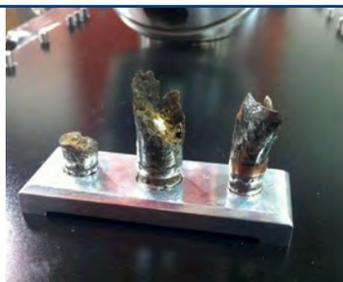
Engine **heaven**

The Oliver Collection boasts a remarkable array of historic aero powerplants, most of which are listed below:

Type	Notes
Rolls-Royce Merlin	Airworthy. To be fitted to Spitfire II P8088.
Daimler-Benz DB605	Serviceable. To be fitted to Bf 109G-2 <i>Yellow 12</i>
Rolls-Royce Merlin Mk.20	Serviceable. From Lancaster and later Hurricane.
Rolls-Royce Merlin Mk.66	Serviceable. From Spitfire SM639.
Rolls-Royce Griffon	Serviceable. From Spitfire.
Bristol Hercules	Serviceable. From Bristol Beaufighter.
Bristol Hercules	Preserved. Twin-row radial.
Rolls-Royce Pegasus	Preserved. STOVL engine from Harrier.
Rolls-Royce Olympus	Preserved. Built by Bristol Siddeley Engines.
Rolls-Royce RB163 Spey	Preserved turbofan.
Napier Sabre	Preservation project from Hawker Typhoon.
Armstrong Siddeley Cheetah	Preserved. Air-cooled radial engine.
De Havilland Goblin 35	Preserved turbojet.



Panavia Tornado GR.1 ZA399, an Operation Desert Storm veteran.



Far left
This airworthy Rolls-Royce Merlin engine is destined to be fitted to P8088.

Left
The collection has recently acquired a serviceable Daimler-Benz powerplant for its Messerschmitt Bf 109G-2 project.

Above
Three spent cartridge cases were discovered within the Daimler-Benz DB605 unit.



HS Harrier T.8 ZD922 has pride of place in the Olivers' second display hall.

“The Daimler-Benz unit, currently on show beside the Merlin that will be installed in P8088, is accompanied by three spent cartridges recovered from it”

“He’s a really interesting guy. That Messerschmitt has such a fascinating story. I’d started to do my own research on it - its pilot, [Maj Heinrich] Ehrler, had over 200 victories and was considered a war hero in Germany before being handed a prison sentence as a scapegoat for the sinking of the *Tirpitz*.

“He then had that sentence rescinded but not surprisingly he was deeply affected by it and appears to have ended his life by deliberately ramming a B-24 while flying an Me 262. His parting words over the radio were:

‘We’ll see each other in Valhalla.’ One thing led to another and we ended up with all this remarkable information about *Yellow 12* and its pilot - it’s phenomenal, almost film story stuff.”

Ehrler, the tenth-highest scoring fighter ace of all time, had been flying with JG 5 when Lancasters targeted the *Tirpitz* in November 1944. When it became clear the warship was being bombed, it was too late for the German fighters to intervene - they had received conflicting messages about the intended action.

Ehrler was nevertheless

singled out for blame. He faced court-martial, was stripped of command and given a three-year prison sentence. Following appeals from his fellow pilots, he was exonerated and given a chance to ‘rehabilitate himself’. On April 4, 1945, he flew his final sortie, downing two B-24 Liberators before ramming a third, destroying both aircraft and killing himself.

The JG 5 Bf 109G-2 in which the ace had earlier made his 200th ‘kill’ was later shot down by flak over northwestern Russia and forced to land in the tundra. There

it remained until recovered by Jim in 2003. Mark now hopes to return it to its original JG 5 appearance and to install a running powerplant.

“The engine is a runner, but not to flying status, so I think we’ll fabricate it to static, ground running condition. We have that Daimler-Benz engine on show, but at the moment the aircraft itself is in pieces and stashed away in various boxes. Jim did some work on the fuselage, and we have a mix of German, Polish and Russian paperwork.

“When Retro Track & Air came



The collection's former Ugandan Westland Scout 5XUUX.



in France. I shipped them off to Peter Grieve of Flight Engineering and asked him to do his magic. He'd already done a lot of work on Merlin engines for us, getting some of those up and running, as well as rebuilding the Camel.

"We didn't really know what we were getting but, when we opened up one of the engines, all the insides were close to perfect - it was like in *Storage Wars* where people open up abandoned

storage units not quite knowing what they're going to find. That worked out really well, and we added a few bits and pieces to create a good runner."

Colourful history

The Daimler-Benz unit, currently on show beside the Merlin that will be installed in P8088, is accompanied by three spent cartridges recovered from it.

The Spitfire reached the Olivers at around the same time, and is in better overall condition.

Manufactured at Castle Bromwich in

February 1941 it was first taken on charge with 39 MU on March 1 that year before moving on to 118 Squadron at Warmwell the following month.

The fighter had been named *The Borough of Lambeth* after the community that had raised funds for it, but 118 Squadron pilot Alec Lumsden also added his girlfriend's name, Bette, and had nose art painted on - featuring Capt A R P Reilly-Ffoull, a character from the wartime cartoon strip *Just Jake*. Colourful artwork on British fighters in the early years of the war was unusual, perhaps explaining why P8088 went on to become a popular subject for modellers.

The aircraft suffered



in, they had a look at the state of the Messerschmitt while they were here, and confirmed there was nothing we could use to fly, so we'll stick to doing a ground restoration for that. Everything is a good few years away, but it's great to have these two wonderful projects safely preserved. We'd love to get the Bf 109 back in one piece, and painted up as *Yellow 12* with Ehrler's many 'kill' markings on the tail, while with the Spitfire the sky's the limit really.

"Initially we bought two beaten up Daimler-Benz DB605 engines, both from a chap called Richard Huckins from Kent. One had come from a Bf 109 that had been downed



The forward fuselage section of Supermarine Spitfire II P8088, displaying the names 'The Borough of Lambeth' and 'Bette'.



Sopwith Camel reproduction 'Susan'.



Some of the collection's military uniforms.

"I think what appeals most to us is the combination of the history of the aircraft and the engineering and people behind them"



Jet Provost T.5A XW330 is displayed alongside a Rolls-Royce Olympus turbojet.



Rolls-Royce Pegasus engine.

several minor accidents and was allocated to various maintenance and operational training units. On September 16, 1944, it dived into the ground at Lower Heath Coppice in Shropshire, killing 61 OTU pilot F/Sgt John Cashel Barry RAAF. The cause of the crash is unknown, but it's thought the pilot's oxygen system may have malfunctioned. The wreck was recovered, and has been displayed at a museum in Ibsley and later at Brooklands, among others.

"The Spitfire had been with John Radford in Oxford," says Mark. "We then carried out a lot of research, discovering the history behind its two names, *Bette* and *The Borough of Lambeth*. Conversely to the Messerschmitt, it saw relatively little action and did not shoot anything down. That said, it has plenty of history, particularly because of the nose art - that was more of a US thing; the RAF just didn't do much of that back in 1941. When we dug into the detail we realised the aircraft was quite well known.

My focus in the last four years has been on the engines, for both the Spitfire and the Messerschmitt. Moving forward, I'd ideally like to make the Spitfire airworthy. The engine is certainly airworthy.

"By happy chance, we recently had a message from a relative of F/Sgt Barry, the young Australian pilot who lost his life when P8088 crashed. The daughter of John's then-fiancée contacted us, asking us if we still had the Spitfire, and we're going to be meeting up with her in September."

Keeping memories alive

It must be emphasised that the Olivers' collection is private and not normally open to the public, though they are extremely receptive to people who have links to the exhibits and often allow visits from veterans, air cadets and other military groups. There have also been 'Merlin Days' at the premises, where they've opened

up the facilities to the public and run as many of the engines as possible.

"Sometimes we've put our engines on trailers and taken them to various events," adds Mark. "Shortly after we bought it in 2010, the Spitfire replica went to York for the Battle of Britain 70th anniversary commemorations."

While it may not always be possible to see what's going on at the collection, it's worth remembering that a lot of these important historical items might have been broken up for spares, scrapped or simply corroded away were it not for the Oliver family's determination to save them and, in many cases, bring them back to life.

Their support is not only dedicated to preserving the machines but also to ensuring the names of those who served are not forgotten. Michael, now 77, personally funded the project to build a memorial to Canadian servicemen at the

National Memorial Arboretum in Staffordshire. He also made a very substantial donation towards the Bomber Command Memorial in London's Green Park. His contribution is also being used to help support veterans and their families.

"My father was just a young child during the war, but he can clearly remember the devastation caused to Manchester," says Mark. "He also remembers learning to count by watching trainee parachutists jumping out of balloons over Tatton Park.

"I think what appeals most to us is the combination of the history of the aircraft and the engineering and people behind them. The link between those things is definitely worth celebrating. The fact that people were building these Merlin engines while being bombed is fascinating. The deeper you delve, the more intriguing it becomes. These creations, and the people behind them, were crucial to preserving our freedom." ●



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A Sunderland Mk1 of 210 Squadron flying over an Atlantic convoy, bound for the Mediterranean, during the early part of WWII.

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The 'Boss's' Javelin

Built as an FAW.7, XH721 test flew from Hucclecote, Glos, in the summer of 1958. It was first issued to 33 Squadron at Middleton St George, Durham, on September 4, 1958, and flew with the code 'W'. It was returned to Gloster at Moreton Valence, Glos, on January 2, 1961 for conversion to FAW.9 status.

Taken on charge by 60 Squadron at Tengah, Singapore, on September 16, 1961, XH721 was coded 'H'. In November 1965 it was painted with an additional 'code' - 'MHM' - the initials of 60's 'boss' Wg Cdr M H Miller. On October 14, 1966, XH721 was retired to 389 Maintenance Unit at Seletar, Singapore. It was struck off charge on July 20, 1967 and scrapped. © PETE WEST 2016 -

BLUE SKIES, PETE

At the close of 1955, the RAF's night-fighter force comprised 11 squadrons of what could best be described as 'interim' types. The de Havilland Venom NF.2A and NE.3 and the Armstrong Whitworth-built Meteor NF.12 and NF.14 were all developments of single-seat day fighters.

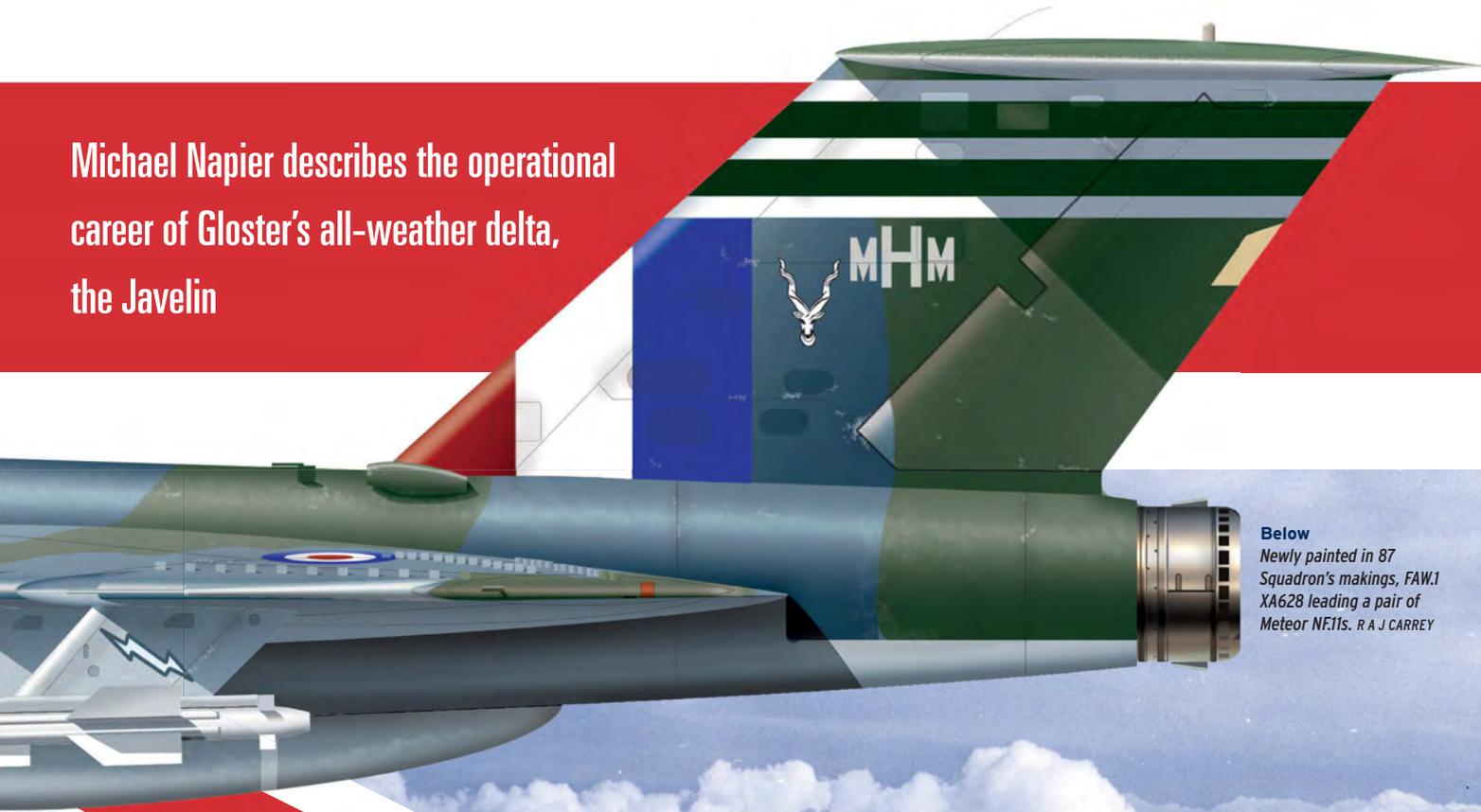
The New Year

marked the start of a new era for the RAF and 46 Squadron at Odiham, Hampshire. The unit had been chosen to be the first to re-equip with the new Gloster Javelin, designed from the outset as a night/all-weather fighter. Powered by two Armstrong Siddeley Sapphire turbojets, delivering twice the power of a Meteor or three times that of a Venom, and fitted with AI.17 radar; the big delta was a highly effective interceptor.

A year later, the systematic conversion of the rest of Fighter Command's night-fighter squadrons started, starting with the Venom units. At Horsham St Faith, Norfolk, 141 (re-numbered 41 the following year) and 23 Squadrons received their new FAW.4s in early 1957, followed by 151 Squadron, which re-equipped with FAW.5s at Turnhouse, Scotland. (See page 34 for details of Javelin variants.)

According to 151 Squadron's diary, the pilots were: "unanimous in their praise for the handling qualities of the Javelin, which is a beautiful aircraft to fly ... indeed flying a Javelin after the Venom is like driving a Bentley after an MG."

Michael Napier describes the operational career of Gloster's all-weather delta, the Javelin



Below
Newly painted in 87 Squadron's markings, FAW.1 XA628 leading a pair of Meteor NF.11s. R A J CARREY

The summer of 1957 also saw founder unit 46 Squadron re-equipping for a second instance, this time with the FAW.2. The rolling programme continued with the last of the Venom NF.3 units, 89 Squadron (re-numbered 85 in November 1958), based at Waterbeach, Cambs, taking on FAW.6s.

The operations diary recorded that 89's pilots: "expressed their delight at the aircraft's handling qualities and the well laid out cockpits. How pleasant it is to fly an aircraft in the role for which it was primarily designed, instead of a mutilated version of a mundane day-fighter."

The first of the Meteor night-fighter units, 29 Squadron, started its conversion to the FAW.6 at Acklington, Northumberland, at the end of 1957, followed by 33 Squadron, receiving its first FAW.7 in July 1958. The year closed with the conversion of 25 and 64 Squadrons at Waterbeach, to the FAW.7. The last Meteor unit to

convert was 72, at Church Fenton, Yorkshire, in April 1959 and Fighter Command's all-weather squadrons had, at last, a truly capable fighter.

Force transformation

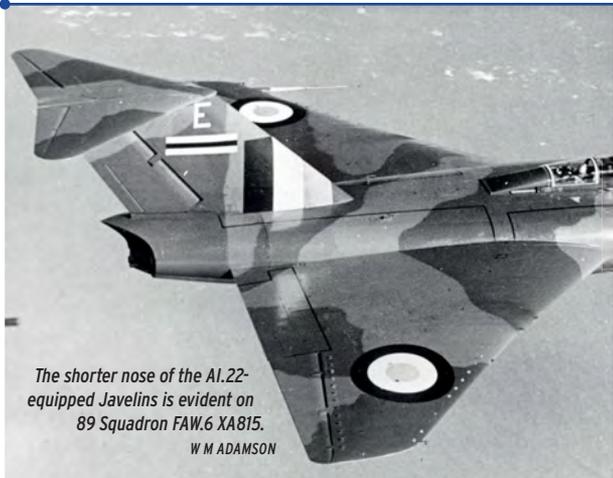
In West Germany, the 2nd Tactical Air Force underwent a similar transformation. At Brüggen 87 Squadron inherited 46's 'second hand' FAW.1s in September 1957. The massive increase in operational capability of the Javelin over the Meteor was demonstrated during Exercise Argus in October when four Meteors and a Javelin were scrambled to intercept a Canberra flying above 40,000ft. The unit diarist recorded: "The Meteors were

two miles behind and not gaining when the Javelin came over the top and completed the interception."

At Geilenkirchen, 96 Squadron received its first FAW.4s in September 1958, but in January, it was re-numbered 3 Squadron, making 96 the shortest-lived Javelin unit. The new 3 took its place on Battle Flight roster in March 1959.

The two remaining Meteor squadrons in Germany were





The shorter nose of the AI.22-equipped Javelins is evident on 89 Squadron FAW.6 XA815.
W M ADAMSON



Javelin variants

Prototypes: First of five had its maiden flight on November 26, 1951.

FAW.1: Initial version, with AI.17 radar. First issued to RAF in February 1956.

FAW.2: As FAW.4 status, but equipped with American AI.22 radar. Deliveries to RAF from June 1957.

T.3: Dedicated trainer version, issued to RAF from October 1957.

FAW.4: Introduced refinements to the flying controls, including all-flying tailplane. First deliveries February 1957.

FAW.5: Increased range FAW.4. First issued April 1957.

FAW.6: As FAW.5 but fitted with US-manufactured AI.22 radar. Deliveries to the RAF from October 1957.

FAW.7: This variant probably represented the standard that should have been achieved when the type first entered service. More powerful engines, ability to carry four drop tanks and missile-armed as standard. First issued to RAF in July 1958.

FAW.8: First with reheat, US AI.22 radar. Deliveries from November 1959.

FAW.9: Upgrades to FAW.7 standard, including FAW.9R long-range versions. First issued to RAF in December 1959; last delivered in May 1960.



Above

The roomy, well laid out cockpit of a Javelin. This is an FAW 6, probably XA831 which was used for research by RAE Farnborough. FAST ARCHIVE

were modified to carry de Havilland Firestreak air-to-air missiles.

Perhaps the most important development during that year was the introduction of the FAW.8 with re-heated Sapphires and AI.17 radar. Delivery of Mk.8s started to 41 Squadron, which reported the variant: "has proved pleasant to fly, with no handling problems. Its rate of climb and performance at altitude are most refreshing after the Javelin Mk.4 and 5."

A major conversion project started at the end of 1959, in which FAW.7s were sent back to Gloster to be rebuilt to FAW.8 standard and re-designated as FAW.9s. Fighter Command entered the 1960s with an all-weather force comprising ten Javelin squadrons – see page 36. Most were equipped with the latest missile-armed variants or about to convert to them.

Part of the fallout of the 1957 Defence Review meant three of the

ten, 46 on FAW.2s at Waterbeach, 72 at Leconfield, Yorks, and 151 at Leuchars – both flying FAW.5s – were disbanded in mid-1961.

Tanking Eastwards

Some of 23 Squadron's FAW.9s had been fitted with air-to-air refuelling (AAR) probes in May 1960 and crews started working with Vickers Valiant tankers of 214 Squadron. Training started with 'dry' hook-ups (no fuel transferred) progressing to 'wet' contacts later in the month.

A contingency plan to reinforce the Far East with two Javelin squadrons to Singapore had been drawn up in early 1960. However, a large-scale AAR deployment on this scale had never before been attempted

and a proving flight was required. After months of preparation by 23 and 214 Squadrons, Exercise Dyke started in late October to send four FAW.9s to Singapore. Two Javelins staged via Orange (France), Luqa



“How pleasant it is to fly an aircraft in the role for which it was primarily designed, instead of a mutilated version of a mundane day fighter”

(Malta) and El Adem (Libya) to Nicosia (Cyprus), then via Diyarbakir (Turkey), Mehrabad (Tehran) and Sharjah (Oman) to Mauripur (India), arriving there on September 30. Here the aircraft were fitted with AAR probes needed for the final leg.

Meanwhile, another pair led by the OC of 23 Squadron left England on September 29. After rendezvous with Valiants they flew to Mauripur, stopping only at Akrotiri, on Cyprus, en route.

The two pairs of Javelins left Mauripur accompanied by Valiants on October 3 and 5, arriving at Changi, Singapore, on the 4th and 7th respectively, having night-stopped at Gan, in the Maldives. The lead

pair had made the trip to Singapore in a little less than 20 hours' flying time, with only three landings along the way.

Exercise Dyke had proved the possibility of deploying over the full distance to Singapore. Another exercise, Pounce, was needed to test the complex logistics of moving a large number of tactical aircraft over a long range.

Exercise Pounce in June 1961 involved eight Javelins, five crews from 23 and another three from 64 Squadron, operating from Karachi. Movement of this relatively large number of aircraft required an intricate tanker plan, whereby four pairs of Javelins were 'tanked' to

Akrotiri, Muharraq (Bahrain) then Mauripur, over four days, arriving by June 14. After ten days in Pakistan, the Javelins and Valiants retraced their steps, returning to Coltishall, Norfolk, over the next six days.

In mid-1962 a number of FAW.9s were returned to Gloster for modification into the 'long range' version, the FAW.9R. This entailed changes to the fuel system so that the aircraft could carry a 230-gallon (1,045 litre) drop tank on each of the under-wing pylons.

In October, a section of three of 23 Squadron's 'new' FAW.9Rs flew non-stop from Coltishall to Aden for tropical trials of the under-wing tanks. This 8½-hour flight supported by the Valiant tankers covered some 4,000 miles.

Down low

In the autumn of 1962, the men of 25 and 33 Squadrons learnt their aircraft were required to re-equip RAF Germany. In November, 33 disbanded at Middleton St George, Durham, and all of its deltas, with most of its aircrew, were dispatched to Geilenkirchen to become 5 Squadron. The following month 25 stood down at Leuchars to form the nucleus of a new 11 Squadron at Laarbruch.

At the same time, 85 Squadron participated in an exercise that gave a good indication of the future of air defence in the mid-1960s: the targets were Valiants at low level. By then V-bombers had switched to low-flying tactics and Javelin crews found their lack of experience in this environment was telling.

The OC of 85 Squadron wrote: "The exercise was enjoyable and

Clockwise from above
FAW.7 XH835, personally coded 'NP' for the OC of 33 Squadron, Wg Cdr N Poole. 33 SQUADRON

Sqn Ldr C P Starck piloting 3 Squadron's FAW.4 XA638 over the Netherlands. 3 SQUADRON

FAW.5 XA661 of 151 Squadron flying past the Bell Rock lighthouse on Scotland's Firth of Tay. VIA AUTHOR

Javelin FAW.1s of 46 Squadron showing two methods of presenting the unit's red arrowhead and white bar. VIA TONY O'TOOLE



One of 25 Squadron's missile-armed FAW.9s flying in 1962.
VIA AUTHOR



Javelin variants

Squadron	Variant	Base
23	FAW.9	Coltishall, Norfolk
25	FAW.9	Waterbeach, Cambs
29	FAW.9	Leuchars, Scotland
33	FAW.9	Middleton St George, Durham
41	FAW.8	Wattisham, Suffolk
46	FAW.2	Waterbeach, Cambs
64	FAW.9	Duxford, Cambs
72	FAW.5	Leconfield, Yorks
85	FAW.8	West Malling, Kent
151	FAW.5	Leuchars, Scotland

proved conclusively that the way to attack this country is at 250ft in conditions of low stratus and poor visibility. Scarcely any of the Valiants were seen, let alone attacked, and our three 'splashes' [kill claims] were achieved more by good fortune than good management."

After Exercise Maenad, in which the targets were V-bombers at 250ft, such intercepts became a monthly fixture. With practise, flying patrol lines at 500ft, Javelin crews achieved some success in this new regime.

Winding down

In response to the deteriorating situation in Aden, the Hunter FGA.9s of 43 Squadron transferred from Cyprus to Khormaksar in early 1963. Javelin FAW.9s of 29 Squadron took 43's place at Nicosia.

Meanwhile, in the UK, 85 Squadron was disbanded in March. From its peak strength of ten squadrons at the beginning of 1960, Fighter Command had just three Javelin units remaining in the UK: 23 Squadron at Leuchars and 64 at Binbrook, Lincs, with FAW.9Rs and 41 at Wattisham, Suffolk, with FAW.8s.

Exercise Canterloup pulled together the experiences and lessons

of Dyke and Pounce, by deploying 12 Javelins to Singapore in 1963. Supported by Valiants, Javelins of 23 Squadron routed via Akrotiri, Bahrain, Mauripur and Gan arriving at Tengah between January 13 and 16. After a brief stay in Singapore, all crews and aircraft were back at Coltishall by the end of the month.

It was the turn of 64 Squadron to deploy to Kalaikunda, to the west of Calcutta, to participate in Exercise Shiksha in October 1963. Over the three days 12 aircraft used AAR support to stage to India via Nicosia and Bahrain. The exercise was held in early November, during which the Javelins operated against Royal Australian Air Force and Indian Air Force Canberras. The start of the so-called 'Confrontation' with Indonesia resulted in four deltas being dispatched to the Far East as reinforcements, rather than returning home.

By early 1964 only two Javelin units remained in Fighter Command's order of battle. Depleted to almost half strength by its reinforcement of Singapore, 23 Squadron disbanded in September. Binbrook-based 64 Squadron's 'A' Flight, had also deployed to Singapore, but 'B' Flight remained in Lincolnshire. After



Above
Javelin FAW.4 XA730 of 72 Squadron alongside a French Air Force Sud Vautour IINS all-weather fighter. 72 SQUADRON

Right
An echelon formation of 11 Squadron FAW.4s from Geilenkirchen.
VIA TONY O'TOOLE

Below
On final approach in Zambia during 1966, 29 Squadron FAW.9R XH891.
RAF MUSEUM



"Fighters were maintained at readiness at Kuching and Labuan, but low-level standing patrols were also routinely staged along the borders, as were close escort sorties for transports carrying out supply drops"



Far left
A 23 Squadron Javelin FAW.9 refuelling from a Valiant tanker operated by 214 Squadron. M H MILLER

Left
Sun-shades keeping cockpit temperatures under control at Karachi during Exercise Pounce. M H MILLER

operating as two independent flights for five months, 64 re-formed as a complete unit at Tengah in April 1965.

The role of RAF Germany's Javelin force officially became that of low level air defence from October 1964. However, events were already overtaking 5 Squadron, which was disbanded in September 1965 and 11 Squadron followed five months later.

Crisis in Cyprus and Africa

Violence broke out between Greek and Turkish Cypriots in mid-December 1963. As a result, 29 Squadron put up a number of standing patrols to deter incursions by Turkish aircraft. Battle Flight scrambles to intercept Turkish F-84F Thunderstreaks became regular events over the next three months.

Two years later, in response to Rhodesia's Unilateral Declaration of Independence, 29 was dispatched to Ndola in Zambia's Copperbelt in early December 1965 to take up a defensive readiness state.

At Ndola the Javelin detachment used Zambian Air Force facilities on the airfield, but the domestic arrangements were pretty basic. A major airlift brought fuel and oil into

Zambia via Aden, but even so in the early days there was only enough fuel for three sorties per day.

Four aircraft were moved forward to Lusaka, where conditions were even more challenging: the short runway, 4,000ft above sea level, was close to the limits for Javelin operations. Initially, 'ops' from Lusaka were limited to scrambles only.

Two fully armed aircraft were kept at readiness, one at 10 minutes and another at 30 minutes' reaction time. Over the next eight months, the Quick Reaction Alert (QRA) aircraft were typically scrambled about twice a month, but any tracks from Rhodesia had usually turned south well before they reached Zambian airspace.

The last operational scramble from Lusaka was made on August 11 and 29's detachment to Zambia was withdrawn at the end of the month. The squadron disbanded in Cyprus the following year.

Confrontation

In Singapore, 60 Squadron finally traded its obsolete Meteor NF.14s for FAW.9s in summer 1961. This re-equipment proved timely, for the Indonesian Government announced its policy of 'Confrontation' in

January 1963.

A 24-hour QRA, Operation Tramp, was established, with two, and later six, live-armed Javelins kept at 30 minutes' readiness at Tengah. In October this was raised further to include a pair at two minutes' readiness from Butterworth in Malaya.

As the situation deteriorated further in November, four aircraft and crews were diverted from 64's detachment in India to reinforce Singapore and Malaya. One of the defining characteristics of the Confrontation period was that vast distances and land areas had to be patrolled and defended: Butterworth was more than 300 miles northwest of Singapore, with all the complications of command and control that it brought.

By the end of 1963, it was clear that RAF fighters would also be needed to support operations over Borneo and more Javelins would be required. A new 'C' Flight was established at Butterworth under the command of Sqn Ldr J G Ince, who arrived in Malaya at the head of another four deltas and crews from 23 Squadron, during Operation Merino, in January 1964. This brought the total number of Javelins at Butterworth to eight and the first FAW.9Rs to the Far East, providing a nucleus of longer-range aircraft.

1,000-mile front

Indonesia declared its intention to supply guerrilla forces in Borneo by air in February 1964. Two Javelins, plus a detachment of 20 Squadron's Hunter FGA.9s, were deployed to Kuching, 400 miles east of Singapore. Four more were established at Labuan – a further 360 miles distant. ➔



FAW.9 XH716 of 25 Squadron in a dive.
C P COWPER



A Javelin FAW.9 joining the circuit at Leuchars with St Andrews Bay in the background. C P COWPER



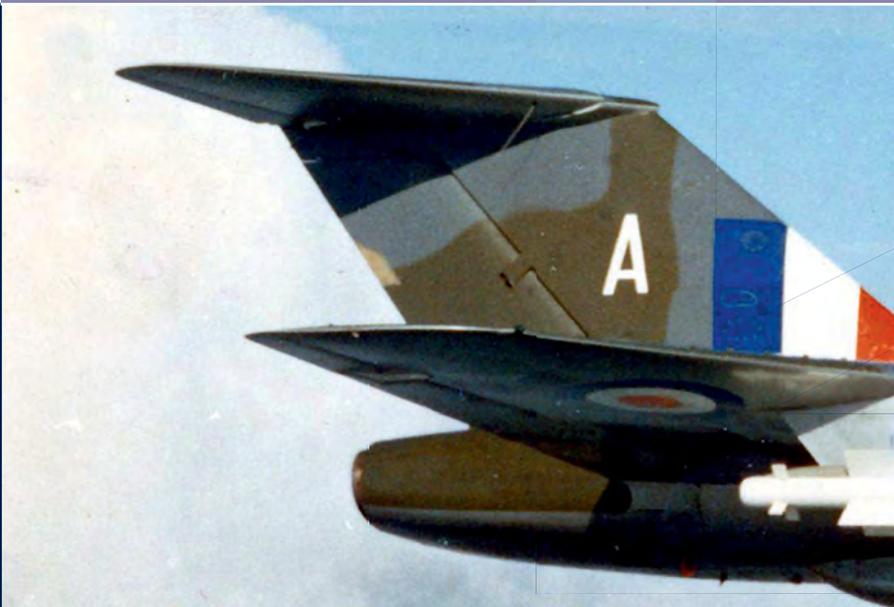
Probe-equipped FAW.9R XH887 of 64 Squadron with the typical operational fit of two under-wing tanks and two missiles. RAF MUSEUM



Javelin FAW.9 XH890 of 23 Squadron with a warload of four Firestreak missiles. TONY O'TOOLE



A Valiant framed in a Javelin gun sight. VIA AUTHOR



Fighters were maintained at readiness at Kuching and Labuan, but low-level standing patrols were also routinely staged along the borders, as were close escort sorties for transports carrying out supply drops.

Conditions were challenging: the operating area was a vast and generally poorly mapped jungle which included mountains rising above 13,000ft.

At the end of February 1964, 60 Squadron was stretched over a 1,000-mile front. The unit was maintaining QRA with two Javelins at Labuan, two at Kuching, four at Tengah and a further two at Butterworth.

Indonesian activity intensified in Borneo over April and, while escorting a supply drop, a Javelin was fired on by a 12.5mm anti-aircraft gun. Intelligence received later indicated that 60 rounds had been fired, although none had hit the aircraft.

A month later a Javelin flown by Fg Offs D W Barden and G M Warden was hit by ground fire: after landing at Kuching a small calibre bullet hole was discovered in the engine intake.

Earlier, on May 16, two Javelins had helped to capture a launch near

Lundu, just to the west of Kuching. The vessel refused to comply with instructions from a patrol ship to stop, but two Javelins appeared on the scene and conducted such an impressive low-level beat-up that those on board immediately surrendered.

Operation Tramp was expanded to include daily dawn and dusk patrols along the Malayan coast and the Borneo detachments were each expanded to three aircraft and four crews.

The FAW.9Rs tended to be used for the Borneo sector, as with two drop tanks and two missiles they could fly 1¾ hour patrols at low level. Crews and aircraft seconded from 23 and 64 Squadrons flew within 60 Squadron to spread the load.

Showing 'Badgers'

After a busy summer, the situation seemed to be calming, but it soon flared up again. Another Javelin was hit by ground fire during a low level patrol over Borneo on October 16, but damage was superficial.

The following month the alert state increased further at Tengah and standing patrols were flown at



“The vessel refused to comply with instructions from a patrol ship to stop, but two Javelins appeared on the scene and conducted such an impressive low-level beat-up that those on board immediately surrendered”

night in the Kuala Lumpur area. Incursions into Sarawak and Sabah by Indonesian irregulars continued.

On December 10 a Gurkha patrol was ambushed in the jungle by about 100 guerrillas. In a critical situation, they called for air support and Flt Lts R E Lockhart and S H Davies, on a routine patrol, were diverted to the scene.

Unable to use the guns, Lockhart continuously ‘buzzed’ the Indonesian positions at low level, selecting rehear as he passed overhead. The afterburners lit with a ‘bang,’ which led the insurgents to believe they were being bombed. Their attack faltered and they withdrew.

Over Borneo, the 1,000th ‘op’ over the island was staged on March 29, 1965. This commitment represented roughly 75% of the newly re-formed 64 Squadron’s total flying. In October 64’s Javelins were withdrawn from Borneo.

Indonesian Tupolev Tu-16 *Badger* bombers were intercepted regularly from Tengah. On June 26 a 60 Squadron crew scrambled and intercepted a *Badger*, which carried no markings.

A crew from 64 launched on August 30 and shadowed a Tupolev along the international border in the middle of the Malacca Straits. On September 21, a Javelin was diverted from a routine training sortie to monitor

another Tu-16 in the Malacca Straits.

Although Javelin operations in Borneo had largely ceased in January 1966, the Confrontation was not yet over. At the beginning of February, 64’s Javelins were back in Borneo. Later in the month, 60 also sent a four to Kuching to assist.

Just after they had arrived in Borneo, on February 17 Flt Lt C V Holman and Sqn Ldr G Moores of 60 Squadron were scrambled to help locate a guerrilla force.

Over a jungle clearing in the search area, Moores spotted movement and Holman spent the next 30 minutes carrying out low-level beat-ups with rehear. The insurgents were pinned down and a Gurkha patrol was able to engage them, killing one and capturing five.

The Confrontation officially ended in August 1966 and this heralded a swift reduction in the size of the fighter presence in Singapore.

At the height of the showdown, 60 Squadron had been the largest Javelin unit in the RAF with a complement of over 30. Both 60 and 64 at Tengah were reduced to an establishment of 12 aircraft and 16 aircrew. In June 1967 it was the turn of 64 Squadron to disband.

Gas Iron

Although the threat from Indonesia had largely dissipated by mid-1967,

growing communist-inspired unrest was causing concern in Hong Kong. In Exercise Gas Iron, 60 Squadron was ordered to provide a fighter presence.

Four Javelins left Singapore on June 22, night-stopping at Labuan, before flying to Kai Tak, Hong Kong, via Clarke Field, a USAF base in the Philippines. All went smoothly and the Javelins stayed for a week. Two more slightly longer deployments to Hong Kong, Gas Iron II and III, followed over the next few months.

Alas, the days of 60 Squadron as a Javelin unit came to a close in early 1968. The disbandment ceremony, held on April 30 included a ‘Diamond Nine’ formation in daylight. Flt Lt K E Fitchew led a four-ship in darkness which was spectacularly flown in rehear.

For a finale, ten Javelins taxied to face the saluting platform for a simultaneous shutdown of 20 Sapphire engines. At that moment, all the lights were doused, except for a single spotlight shining on the flagstaff, and the ‘Last Post’ sounded as the RAF ensign was lowered. It was a fitting farewell to both 60 Squadron and to the Gloster Javelin.

Michael Napier is the author of the recently launched Gloster Javelin - An Operational History, published by Pen & Sword. www.pen-and-sword.co.uk

Above

The Javelin FAW.7 was the first variant capable of carrying air-to-air missiles as standard. Firestreak-armed XH756 was used for development work before being passed to 23 Squadron. JET AGE MUSEUM

Left

A formation of 60 Squadron FAW.9s, led by Wg Cdr Fraser, set up for a flypast at Paya Lebar, Singapore, in December 1965. J ABELL

Gateway to the East

The former RAF Gatow in Berlin is now the official museum of the Luftwaffe. **Chris Gilson** paid a visit to see what's on offer there

To many, the word 'Gatow' is synonymous with the Berlin Airlift of 1948-1949, but the former Luftwaffe and RAF airfield has a far greater historical significance than that one operation, and since 1995 has been the official site of the Luftwaffe Museum, or Luftwaffenmuseum der Bundeswehr to give it its correct title.

The airfield at Gatow was one of the Luftwaffe's first, being constructed in 1935 to an unusual circular design, and from the start was designed by architect Ernst Sagebiel to be a training base along the same lines as the RAF's equivalent facility at Cranwell. In this respect it was never operational as a combat airfield, finally falling into Red Army hands in April 1945.

From the Russians it passed to the control of the RAF from July that year, when an Avro Anson became the first British aircraft to land at the base.

During the Cold War period, RAF Gatow played a series of important roles, its most famous being its work during the Berlin Blockade of July 1948, when the city was effectively shut off from the outside world by the Soviets.

Along with the American-run Tempelhof airfield, and the French-controlled Tegel, Gatow played a vital role in the ensuing Berlin Airlift, which saw thousands of tons of supplies flown in to the civilian population by a mixture of civil and military Allied transports until the blockade was removed.

Gatow is also fondly remembered for its station flight of de Havilland Chipmunk T10s, unlikely Cold War warriors used to exercise the British right under the Potsdam Agreement to continue to share the airspace to and from both Berlin itself via the famous air corridor and also over both sides of the divided city.



The airfield is synonymous with the Berlin Airlift. In this image, impoverished children wait to leave the city for a new life.

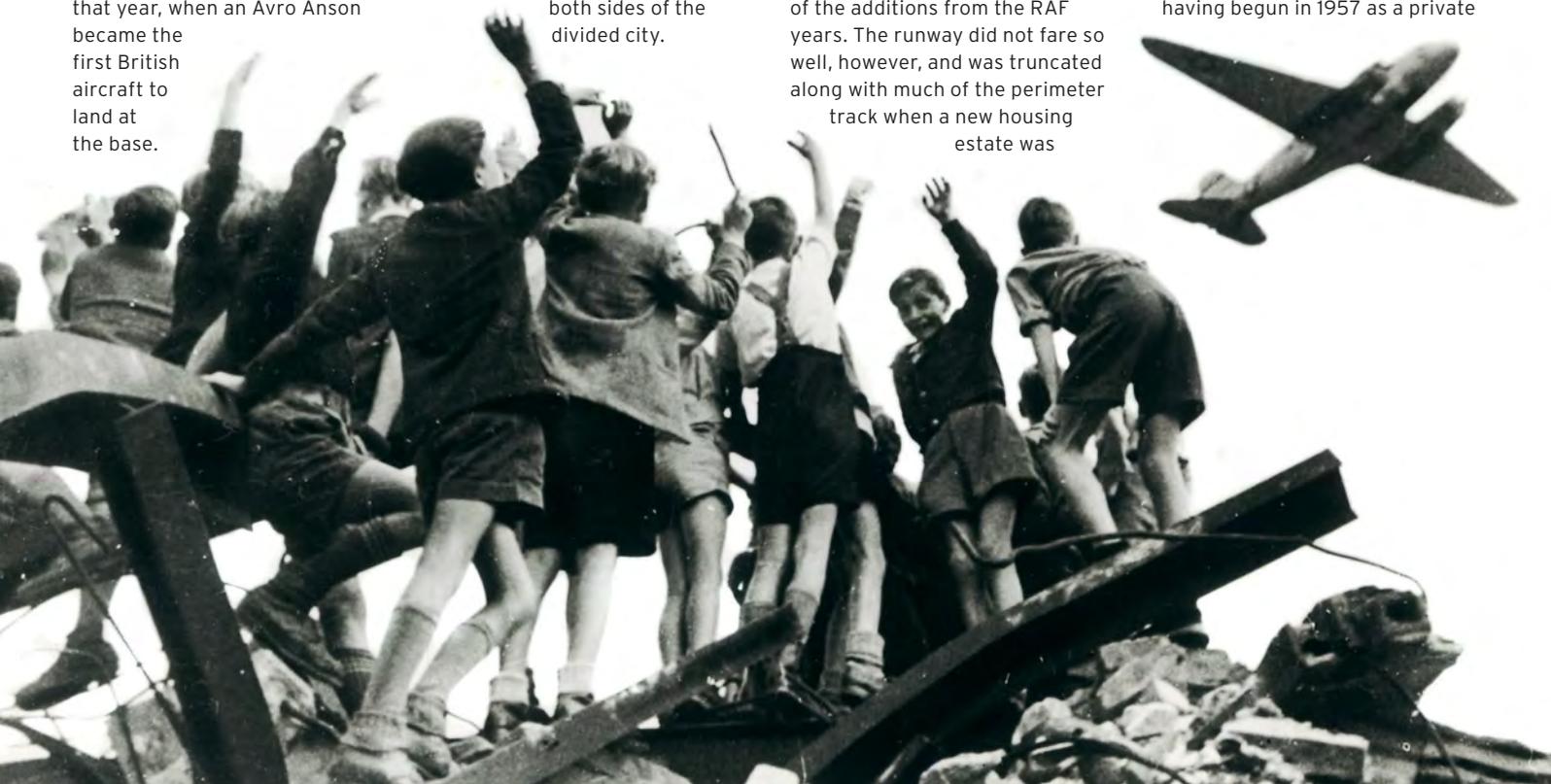


Gatow is a must for any fans of German aircraft, such as Messerschmitt Me 163 B-1a Komet 191904.

In September 1994, the British handed Gatow back to the German military, and in 1995 flying at the site ceased. Surprisingly, many of the original structures survive and remain in use today, as do many of the additions from the RAF years. The runway did not fare so well, however, and was truncated along with much of the perimeter track when a new housing estate was

created on part of the airfield site - which, apart from the museum, is still in active use by the modern day Luftwaffe.

The idea of having a Luftwaffe museum was not new, the first having begun in 1957 as a private





This Messerschmitt Bf 108 was recovered from a lake and preserved in 'as is' condition. Note its blue paint, suggesting a civilian example.



The site's Cold War heritage is rich, with this sectioned MiG-21 on display in Hangar 3.



Gatow's station flight of two de Havilland Chipmunk T.10s became famous for its use of the 'air corridor'. This is WG466.

"In September 1994, the British handed Gatow back to the German military, and in 1995 flying at the site ceased. Surprisingly, many of the original structures survive and remain in use today, as do many of the additions from the RAF years"

collection. In September 1987, the Bundeswehr took over the administration of the collection, which moved to Gatow from its initial base in Hamburg in 1995. Since 2010, it has been part of the Militar Historisches Museum - the

German equivalent of the Imperial War Museum in the UK. Since then the collection has expanded, with 155 aircraft on site at the time of writing. Most are Cold War-era aircraft, although World War One and Two exhibits

also feature. With German reunification, many former East German (DDR) airframes became available for exhibition, and the museum has a good selection of both Eastern Bloc and NATO types.

One issue Gatow has is lack of space. Despite having seven large hangars, some are for storage and maintenance, meaning many of the aircraft are externally displayed and exposed to the elements. A full restoration





Above
There are no fewer than seven Lockheed Starfighters on display at Gatow, including F-104F 29+06.

Below
Piper L-18C AS+525 dominates the ceiling of Hangar 3.



Many British designs were used by the Luftwaffe including the Bristol Sycamore.

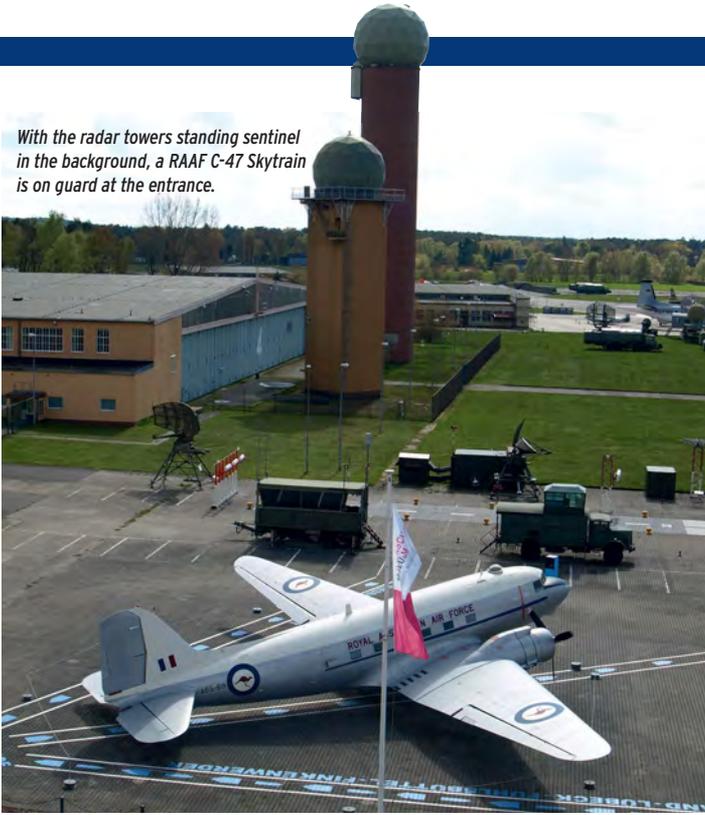


Familiar Cold War nose profiles on display as Tornado (left) meets Phantom.



Despite its British markings and WZ865 serial this Hawker Sea Hawk FGA.6 is actually German 61+10.

With the radar towers standing sentinel in the background, a RAAF C-47 Skytrain is on guard at the entrance.



and conservation facility is on-site, and there is a rolling programme to ensure exhibits are overhauled and kept from deterioration. A detailed look at the important role and dedicated work of the conservation team will be in *FlyPast's* September edition.

Gatow is on the path to change, however, with a radical overhaul of the site about to begin after a decade of planning. In the same way that the RAF Museum at Hendon is undergoing similar alteration, Gatow is to be essentially rebuilt, while keeping the historical integrity of the site intact.

During 2011 a competition invited designs to be submitted for the museum's overhaul. The finer points of the final design have yet to be completed, but much of the work is ready to start, with the main exhibition in Hangar 3 due

to be the first to be completely redeveloped. This will see the aircraft moved to a storage facility to make way for a completely new interior with an additional emphasis on telling the human side of the Luftwaffe story, and not just focusing on the hardware.

Other work will see a new series of exhibitions in Hangar 4, while Hangar 2 is to be rebuilt as a painting facility. When complete, the museum will be an up-to-date record of the Luftwaffe, and it is hoped visitor numbers will increase considerably. Admission to the site is currently free, which is not expected to change - making it great value. The transformation won't be a rapid process though, and is expected to be more leisurely than Hendon's - it is estimated that Gatow's renewal will be complete in 10 to 15 years.



English Electric Lightning F.2A XN730 was retired in 1977, and has been a museum exhibit since 1983.



Still looking good despite being outside is North American F-86K Sabre JD-249.

Below
Painted in the markings of the East German Air Force is this PZL Lim-5 (a licence built MiG-17), coded 615.



"During 2011 a competition invited designs to be submitted for the museum's overhaul. The finer points of the final design have yet to be completed, but much of the work is ready to start, with the main exhibition in Hangar 3 due to be the first to be completely redeveloped"



Weather beaten, but still wearing its camouflage colours is Sukhoi Su-22M-4 613, ex-Luftwaffe 25+11. This aircraft was known as 'Fitter-K' by NATO forces.

Gatow on Tour

One way of emphasising the museum's presence is taking part in external projects - with two being of particular note. The first is an ongoing concept which will see it work with its French and British equivalents to produce an exhibit displaying three biographies - one from each country. The bulk of the project is likely to be online, and further plans for it are being devised.

A more tangible exhibition was the commemoration of the Rotterdam bombings of 1940, which saw much of the city destroyed by the Luftwaffe between 10 and 14 May that year. Gatow assisted by sending its licence-built Heinkel He 111 bomber (actually a Spanish CASA-built variant with Rolls-Royce Merlin engines) to be suspended from the ceiling of the display in the former

submarine pens in Rotterdam.

The bomber had to be carefully dismantled for the move, then reassembled - with undercarriage retracted - to become the centrepiece of the show, which was visited by more than 70,000 people, and helped share both the Dutch and German perspectives of the action and its aftermath.

If you're planning on visiting Gatow, remember it's a fairly lengthy journey by foot, car and bus taking you out of Berlin's centre. For any student of aviation history, it's a worthwhile place to spend the day - and with exhibits as far as the eye can see, some of which are very rare, time well spent.

FlyPast wishes to thank the staff of the Luftwaffenmuseum der Bundeswehr for their unstinting hospitality and invaluable help in arranging this visit. ●

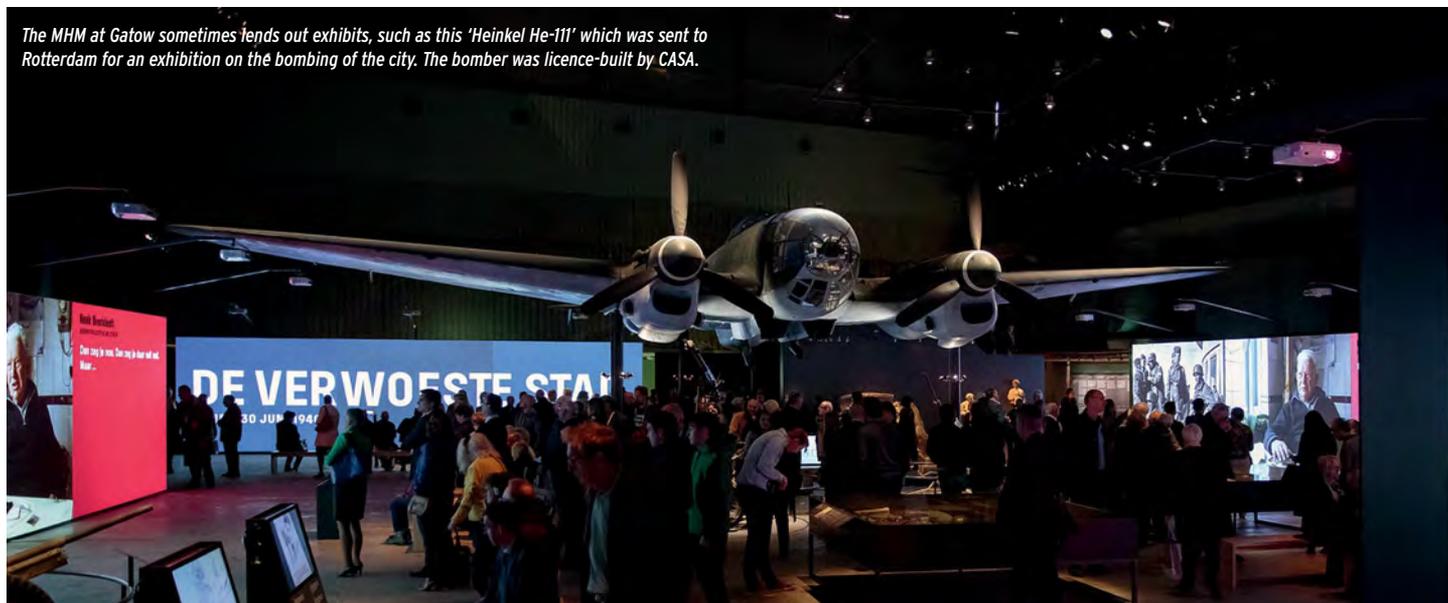


A rare survivor is Hawker GR.1 (Development Batch) Harrier XV278.

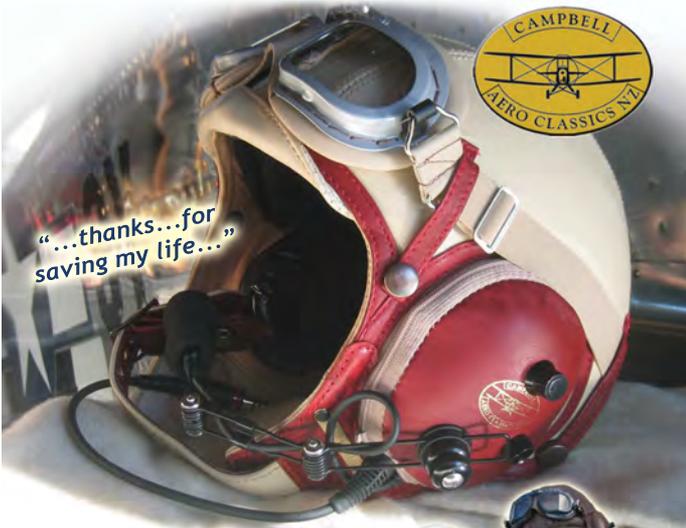


Another rarely seen aircraft is the Republic Thunderflash, in this case RF-84F EB-244.

The MHM at Gatow sometimes lends out exhibits, such as this 'Heinkel He-111' which was sent to Rotterdam for an exhibition on the bombing of the city. The bomber was licence-built by CASA.



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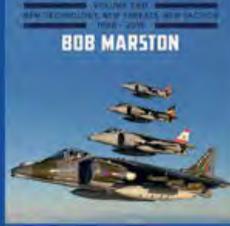
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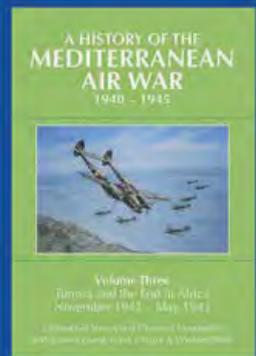
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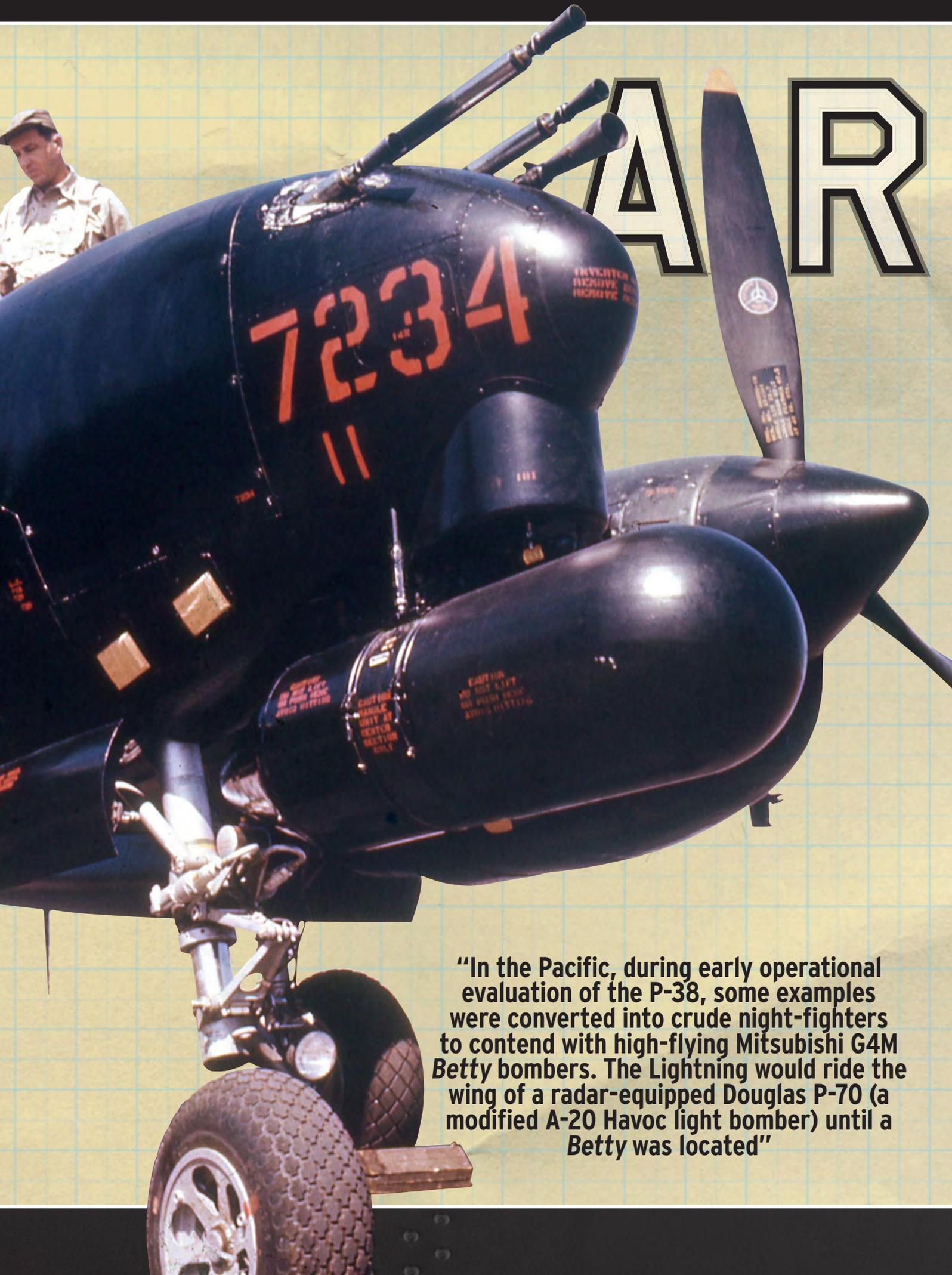
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AIR

"In the Pacific, during early operational evaluation of the P-38, some examples were converted into crude night-fighters to contend with high-flying Mitsubishi G4M Betty bombers. The Lightning would ride the wing of a radar-equipped Douglas P-70 (a modified A-20 Havoc light bomber) until a Betty was located"

Cadillac of the

CORPUS

LOCKHEED'S P-38 WAS ADAPTED AS A TWO-SEAT NIGHT-FIGHTER FOR THE PACIFIC THEATRE. **WARREN E THOMPSON** DESCRIBES ITS EVOLUTION

Clarance 'Kelly' Johnson and Hall Livingstone Hibbard designed an exceptionally versatile aircraft when they formulated the Lockheed P-38 Lightning. Two versions were fitted with a glazed nose and equipped with a Norden bombsight or H2X radar: the P-38J 'Pathfinder' and P-38L 'Droop Snoot', both of which served in the European theatre.

In the Pacific, during early operational evaluation of the P-38, some examples were converted into crude night-fighters to contend with high-flying Mitsubishi G4M *Betty* bombers. The Lightning would ride the wing of a radar-equipped Douglas P-70 (a modified A-20 Havoc light

bomber) until a *Betty* was located. If the enemy was beyond the service ceiling of the P-70, the P-38 would climb to engage. Other P-38s worked with searchlights under the wing; but both of these tactics were short-lived.

A dedicated night-fighter was urgently needed and in 1943 three manufacturers started to develop what they hoped would be a solution: Northrop with the P-61 Black Widow, Grumman the F7F-3N Tigercat and Lockheed the P-38M Night Lightning. North American also began work on the P-82 Twin Mustang but this did not reach its goal until the early days of the Korean War. It was the P-61 that showed the most promise and it entered full production.

CRAMPED TWO-SEATER

The P-38M was kept in the running and in March 1945 the first Night Lightnings started to be modified at the Lockheed facility in Dallas, Texas. In order to install an SCR-540 radar, two of the 0.50 calibre machine guns were deleted. Early testing proved that such a configuration was ineffective. It was too much for the pilot to handle - night-fighting was a two-man job.

This led to Lockheed turning P-38L 44-25237 into a two-seater with a radar operator (R/O) under a bulged canopy in a raised section positioned directly behind the pilot. This was a cramped 'office' and the crewman had to be short and slender.

LEFT

Close-up of the radar mounted under the nose of a P-38M.
LOCKHEED

BELOW LEFT

Freshly painted P-38Ms on the flight line of the Hammer Field, California. GARRY PAPE



RIGHT

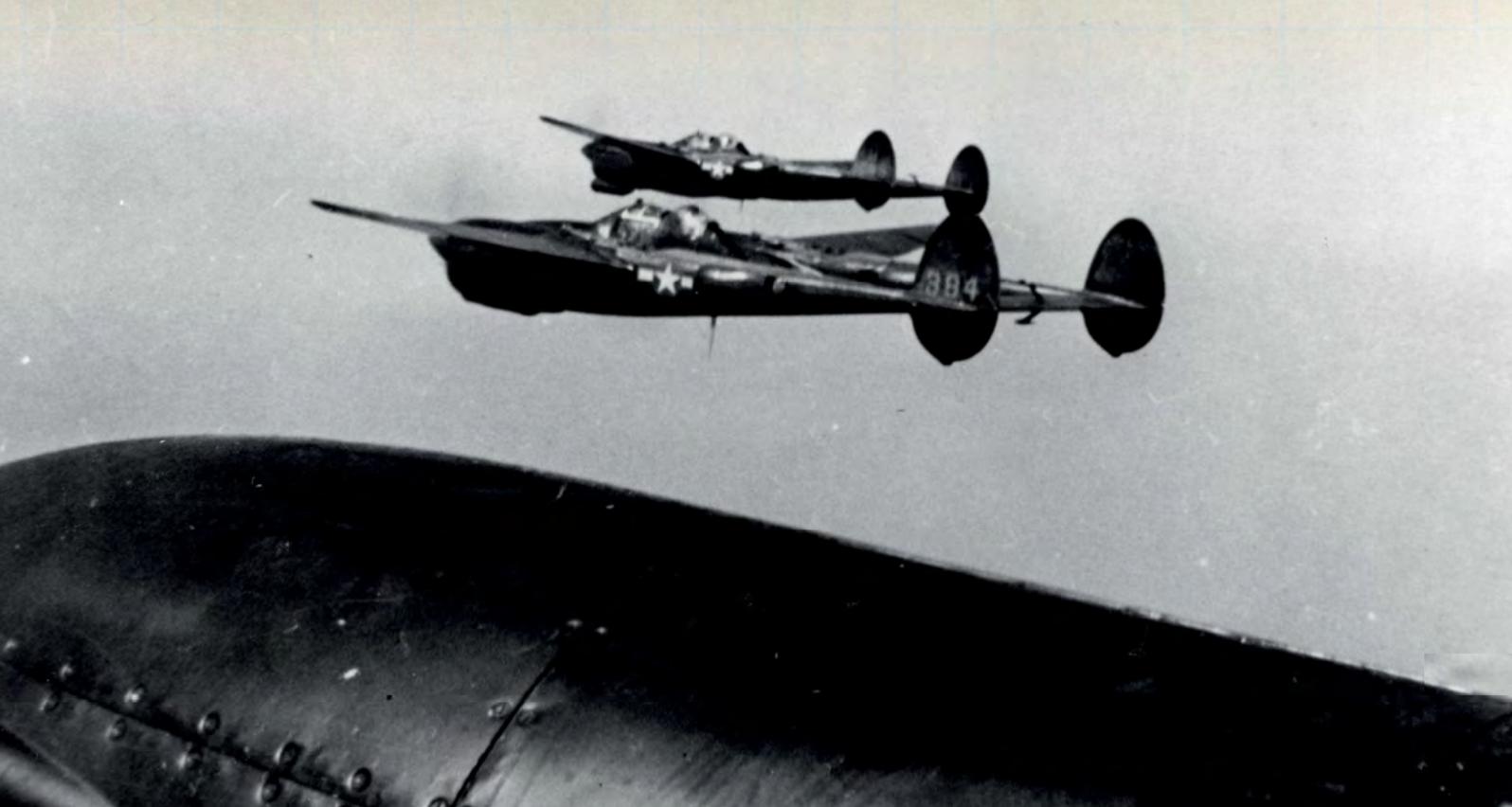
A P-38M in flight showing the cramped R/O's cockpit, under-wing radar aerials and nose-mounted radar pod. LOCKHEED

BOTTOM

A three-ship formation out of Hammer Field, California, in September 1945. GENE HEIDER



"The radar operator had to sit all hunched over his scope without room to stretch out or move around. It was nothing like the spacious radar compartment in a Black Widow"





Col Victor M Mahr was commander of the high-scoring 6th Night Fighter Squadron (NFS) in the Pacific. This unit was the first to receive P-61As, on March 1, 1944. Mahr was deeply involved in the evolution of the P-38M Night Lightning. He recalled: "We used a number of different types of '38s to start with. The original models had a makeshift seat for the R/O. If I recall, it wasn't even a seat, he just sat on a portion of the wing and his feet hung over the main spar.

"The M-model was a P-38L that was modified with a 'double-bubble' [twin canopy] on it, and of course, manoeuvre flaps which we used on

many occasions. When asked how I would I rank the 'M's combat potential with that of the P-61, the Black Widow had four 20mm cannon and the 'M had only 0.50 calibre guns and one cannon, but the Night Lightning carried a wide variety of armament, rockets, bombs etc.

"Also, the 'M had a performance much better than the P-61 as far as climbing, top speed, and we used our P-38s at times, in Fresno, to chase Japanese balloons that they had sent over as our radar would vector us into it. The P-38 could out-climb the P-61 and get up to the kind of altitudes that the *Betty* flew in"

Lt David Hopwood, one of the top-timers in the night-fighter business recalled some of the details in the cockpit area: "We didn't have much room in the aircraft, front or back. The pilot had a full seat about as wide as a normal chair. Everything, such as the instrument panel throttles and rudder pedals were up close. The canopy came right up over your head without much clearance.

"However, compared to the R/O, we had much more elbow room. The R/O had to sit all hunched over his scope without room to stretch out or move around. It was nothing like the spacious radar compartment in a Black Widow. It took a real dedicated individual to stick it out on the longer practice missions we flew not long after the war ended.

"In real bad weather these guys took a beating. I remember that most of them complained about the excessive G-forces and all that horsing around we did. I didn't blame them in the least; in combat we would have flown lengthy missions."

OCCUPYING FORCE

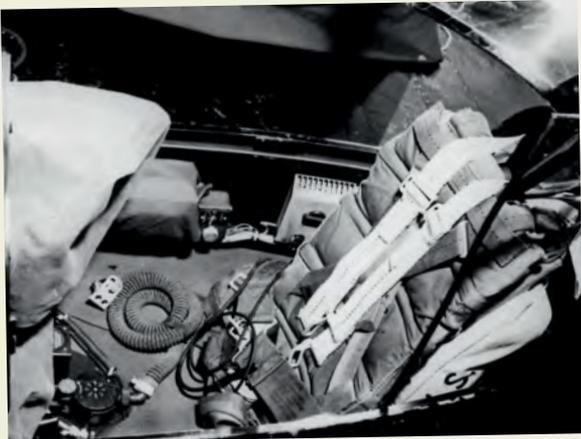
Training crews for P-38Ms started in earnest in early 1945 with six pilots and a like number of R/Os, most of which had combat experience on the P-61. This group was gathered at Hammer Field near Fresno, California, and in the first instance they trained on specially adapted two-seat 'piggy-back' P-38Js. Referred to as 'TP-38s'

TOP LEFT
Lt David Hopwood was one of the first airmen to fly the Night Lightning from Atsugi, Japan. P-61s in the background. DAVID HOPWOOD

ABOVE LEFT
The rear cockpit of a P-38M was no place for claustrophobia! A 418th NFS R/O at Atsugi, 1945. DAVID HOPWOOD

ABOVE
Lt David Hopwood (right) and Lt John Brewer in front of Brewer's 'Shady Lady'. DAVID HOPWOOD

LEFT
A Hammer Field-based P-38M training a crew preparing to deploy to the Pacific. LOCKHEED



“The performance and pleasure of flying the P-38M was much greater than the P-61. It was a little tougher on the R/O, but the Lightning was probably the Cadillac of the Air Corps in those days”

ABOVE
The R/O's station in a P-38M with the shrouded radar screen to the left.
GARRY PAPE

they had been modified to carry US Navy APS-4 radar in a pod under the starboard wing. There was only a makeshift seat for the R/O. Five P-38Ms assigned to the programme finally arrived in early July 1945.

The intention was that Hammer Field would train as an elite group on the Night Lightning. These personnel would go overseas and

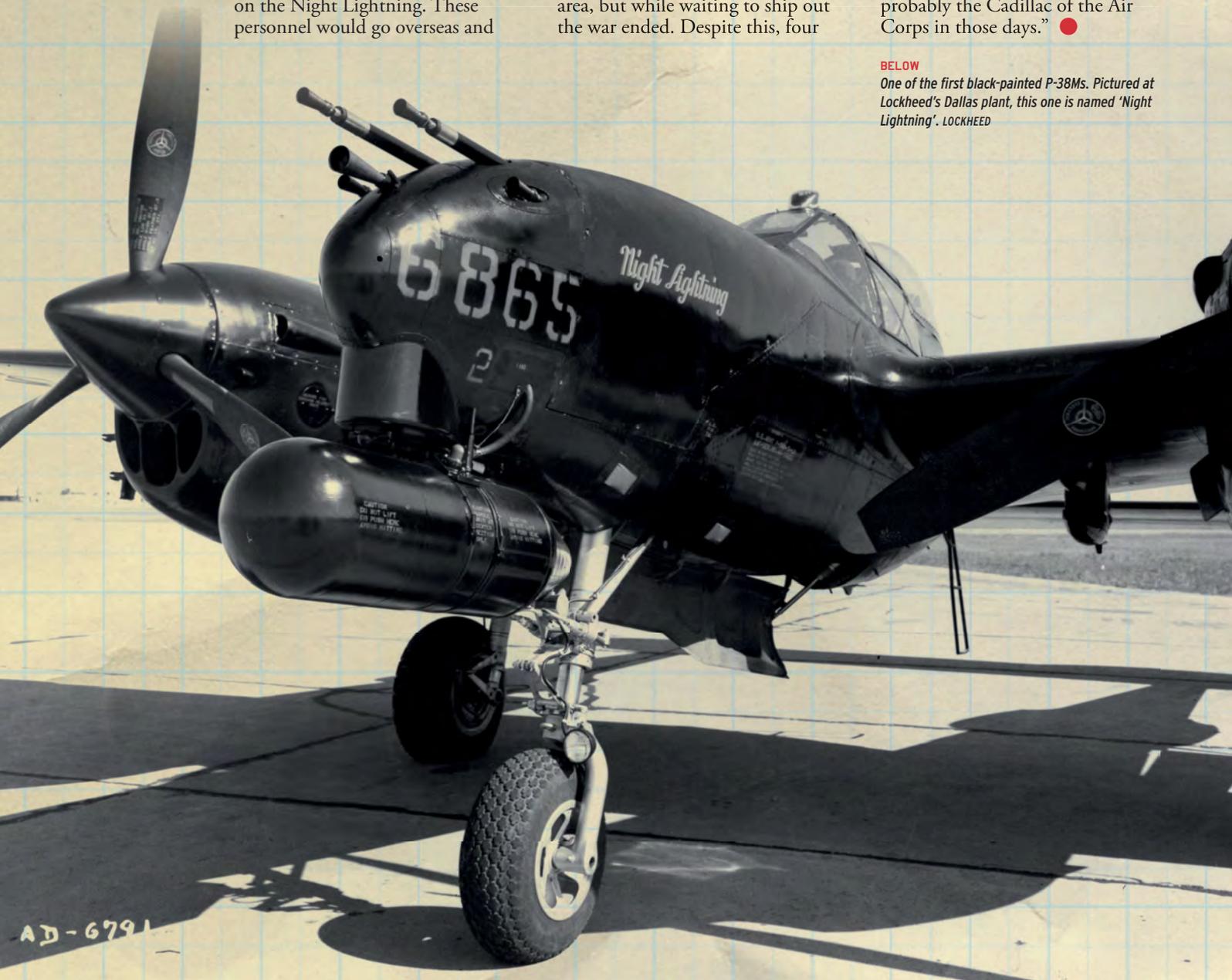
lead others into combat. Besides flying practice intercepts, crews were sometime scrambled or diverted from other missions to chase Japanese bomb-carrying balloons. The R/Os became proficient in guiding their pilots; a favourite occupation being to get in the landing pattern of nearby Merced Field and follow training aircraft right down to final approach.

Training completed, the first group of eight crews was sent to Salinas, California, destined for the Pacific area, but while waiting to ship out the war ended. Despite this, four

crews (eight men) proceeded to the Pacific, ending up at Clark Air Base in the Philippines in October 1945. Four P-38Ms were shipped on January 7, 1946 and practice missions started before they were ferried to Atsugi, Japan, to serve as part of the force of occupation within 418th NFS.

Hopwood summed up the P-38M: “The performance and pleasure of flying the P-38M was much greater than the P-61. It was a little tougher on the R/O, but the Lightning was probably the Cadillac of the Air Corps in those days.” ●

BELOW
One of the first black-painted P-38Ms. Pictured at Lockheed's Dallas plant, this one is named 'Night Lightning'. LOCKHEED



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A Dutch soldier looks over chopped-up Liberators. ALL IMAGES FROM THE COLLECTION OF THE LATE HANS WILLEM VAN OVERBEEK VIA AUTHOR





OCEAN

of Metal



ROGER SOUPART DESCRIBES HOW A REMOTE ISLAND OFF THE COAST OF NEW GUINEA BECAME A VAST GRAVEYARD FOR PACIFIC WARBIRDS

Like many idyllic tropical islands in the vastness of the Pacific, the quiet life on Biak was shattered when it was invaded by the Japanese in late 1941. Southeast of the Philippines, just off the northern coast of New Guinea, Biak sat astride vital shipping lanes supplying the occupying forces from Malaya and Korea.

This made the island an important objective and American forces began the liberation of Biak on May 27, 1944. Opposition was considerable and it was not until August 17 that the Japanese defences were completely overcome.

There was no return to tranquility; the island was to be turned into a complex of air bases – Borokoe, Mokmer and Sorido – collectively referred to as Biak. Within this network of runways, taxiways and buildings was an air-sea rescue station and a huge storage facility with enough armaments, munitions and equipment for a year's worth of fighting.

Work on this ambitious project was carried out with great speed, but it was overtaken by events when Japan officially surrendered in September 1945. The Americans had no need for Biak and prepared to return it to the Dutch Government.

Before the handover there was a final need for the underused runways and dispersals. From all over the Pacific, USAAF, and the occasional Navy or Marine aircraft started to arrive. The fleet was mixed but all had one thing in common: they were not needed anymore and were making a one-way flight.

With factories in the US still churning out warplanes, there was no requirement to bring these tired and damaged veterans home. Even though some of them had only a few

flight hours to their credit and may have been just months old, they were already obsolete. It was far cheaper to leave them in the Pacific theatre as 'souvenirs' for the people of Biak.

'ADOPTED' BOMBER

The oldest type to arrive was the Douglas A-20 Havoc which had played a major role in the Pacific but was already supplanted by the A-26 Invader. Around 100 Havocs were flown to Biak; among them one of the most distinctive of the breed. Painted in a vivid colour scheme, A-20 *Little Chief* was flown by the B-24 Liberator-equipped 90th Bomb Group (BG) and carried the unit's skull and crossbones motif on the fin and rudder.

Little Chief was not officially part of the 90th's inventory; it had been 'found' and 'adopted' by the unit. The Havoc was used for 'special' operations, making regular runs south across New Guinea and the Arafura Sea to bases in Australia's Northern Territories and Queensland. It would return with its weapons bay crammed not with bombs, but all sorts of creature comforts including alcohol and cigarettes.

The 90th BG made no attempt to hide *Little Chief's* purpose – the voluptuous lady that graced the nose was resting her long legs on crates of gin, one of which carried the name of the source of the liquor: Cairns, on the northern coast of Queensland, a round trip of nearly 1,800 miles (2,896km).

'BROKEN' BIRDS

In the Pacific theatre the B-24 was the backbone of the USAAF heavy bombers, with Boeing's B-17 much harder to find. It's not known exactly how many Liberators arrived at Biak, but it must have been several hundred. ➔



BIAK'S NOSE-ART



'Hell's Belle', a name many B-17s and B-24s adopted. This faded example at Biak has been identified as B-24J 44-40660, which served with the 864th Bomb Squadron of the 494th BG - 'Kelly's Cobras'.

Artwork on the nose of 'Bourbon Boxcar', almost certainly F-7A 42-73048 of the 20th Combat Mapping Squadron. This was a conversion of a B-24J bomber, fitted with three cameras in the nose and three in the bomb bay.

Above
 'Hangover Haven II' nose-art on F-7A Liberator 42-64053 of the 20th Combat Mapping Squadron. During its time at Biak the temporary blue camouflage had been washed away by the relentless tropical storms. It carries 12 camera symbols as mission tallies.

Top, left to right
 A sea of A-20s, B-24s, B-25s, C-47s, P-38s, P-51s and P-61s forming just one of the dumps at Biak.

With its nose-art fading away, F-7A 'Hangover Haven II'. On the right is a B-24 of the 90th BG.

A P-38 Lightning with the tail of A-20 'Little Chief' behind.

A collection of A-20 Havocs; note the large number of mission tallies. In the middle is A-20G 43-21984 'Ready Teddy' which served with the 12th BG.

Among them was the rare F-7, the photo-reconnaissance version which was being replaced by the F-13, the camera-equipped B-29 Superfortress. Wearing all-over blue camouflage, at first glance the F-7s looked as if they belonged to the US Navy. As the paint was temporary and not resistant to the rigours of the tropics, it was soon washed away and the F-7s more or less returned to their original aluminium finish. One of the Biak F-7s, *Hangover Haven II*, had only flown 12 missions when it was retired.

Of the B-25 Mitchells ferried to Biak, most were older versions, recognisable by the dorsal turret positioned midway down the fuselage, and not immediately behind the cockpit as on the more widely used B-25J. Some 30 Douglas C-47 Skytrain transports were also retired to Biak.

Apart from the twin- and four-engined bombers and transports, large numbers of fighters set course for Biak in the first months of peace. They included a handful of Northrop P-61 Black Widow night-fighters. State of the art at the time, they were probably written-off due

to fatigue or battle damage.

The bulk of the Biak fighters were Lockheed P-38L Lightnings, but there were also 'razorback' Republic P-47 Thunderbolts and North American P-51 Mustangs. Like all the other retirees, they were parked on dispersals and in jungle clearings. Many of these broken 'birds' wore nose-art and row upon row of bomb tallies.

DECOMMISSIONED

When the Americans announced they were pulling out, it became clear that the vast cache of aircraft would not be going anywhere. The war veterans could not be left in a condition that would enable them to fly again: with independence movements breaking out all over Southeast Asia, here was an 'instant' rebel air force.

So it was decided they had to be made unfit to fly. One by one, every aircraft was visited by a demolition team. Everything of value was stripped

out: certainly the machine guns, probably the instrumentation too.

To start with, the engines were removed from most of the B-24s, although other types kept theirs.





The turret and canopy glazings were smashed and the tail sections removed – at first with blowtorches, but bulldozers turned out to be much faster. The A-20s were left more or less intact, while the C-47s were dismantled. Without exception, all propellers were detached, in many cases by blowtorch.

What was left was a morass of carcasses scattered all over the place, often on top of each other. Slowly the jungle and wildlife claimed the hulks.

RECYCLED

When the Dutch Government took over New Guinea and Biak, it paid the Americans \$3 million for everything relinquished by the military. The piles of aircraft were only a small fraction of the material left behind. (The western half of New Guinea,

Papua province and the island of Biak is today part of Indonesia.)

Soon the dumped aircraft became a burden for the Dutch. They had paid for them but could not do anything with them, unless they were scrapped – a complex and specialist task. From the late 1940s and into the 1950s a civilian contractor successfully bid for the rights to clear the hulks and process them.

Huge smelting ovens and massive guillotines were brought to Biak; the hulks were chopped into manageable pieces, pushed into the furnaces and turned into ingots. Ironically, the 1,650lb (750kg) alloy blocks that came out of the ovens were sold to the US aircraft industry. The Dutch Government, the contractor and the customer were all happy – profits all round!

Soon the entire area was cleared, but a decade later *another* aircraft

dump was created on Biak. When the Dutch Navy's Air Arm (Marineluchtvaartdienst) left the base in the late 1950s, Martin Mariner flying-boats, a Lockheed Neptune, several Consolidated Catalinas and lots of Fairey Fireflies were abandoned. They did not stay long, as Chinese scrap merchants took care of them in a fast and effective way.

Today there are no traces of the huge dumps that were once a landmark on Biak. Readers may wonder why *some* of these treasures were not saved. At the time, people were sick of the war and wanted to live again. There was no need for warplanes and by melting them down they could be turned into tools. Salvage to a far-flung museum would have cost a fortune and curators could find retired warplanes much closer than the jungles of New Guinea. All that remains are photos of the metal ocean that dried up on Biak.

Below
'Little Chief', the 90th BG's unofficial A-20 'gin wagon', ended its days at Biak. Behind is a B-24 from the 90th, also carrying the group's skull and crossbones logo.



Racehorse

AMONG CARTHORSES

LT COL ROBERT 'CRICKET' RENNER LOOKS INTO THE PEDIGREE OF THE SEAFIRE III AND TALKS TO PILOT AND RESTORER RICHARD GRACE

Right
Richard Grace flying
Supermarine Seafire III
PP972 (G-BUAR).
ALL IMAGES © JOHN DIBBS

Viewed by many as *the* iconic fighter of World War Two, the Spitfire is one of the few aircraft to have been produced throughout the war. Best known for its service with the RAF, the Spitfire had a lesser known sibling that served in the Royal Navy – the Seafire – which sported folding wings and a tail hook and gave the Fleet Air Arm a credible fighter.

While they looked the part, the early Seafires were far from ideal due to their narrow undercarriage and fragile construction. That long nose created challenges when trying to land on an aircraft carrier.

Until the addition of external fuel tanks, short range also hindered the Seafire's operational suitability. Nevertheless, it served with distinction in the Atlantic and the Mediterranean as well as against the Japanese in the Pacific.

BIRTH PANGS

The Fleet Air Arm began World War Two without a modern fleet defence fighter, so the Royal Navy issued Specification O8/38 seeking a hasty response for a dual-role escort and reconnaissance type that was not expected to engage in combat with single-seat land-based aircraft. The requirement resulted in the Fairey Fulmar, derived from a light bomber design and first flown in January 1940. Soon after it was introduced, in the summer of 1940, the Fulmar was completely outclassed.

The concept of a 'Sea' Spitfire first saw the light of day with the Type 338, a Spitfire with an 'A-frame' arrester hook, which first flew on October 16, 1939. The Admiralty was excited by the possibility of a navalised version, but the First Lord of the Admiralty – and soon to be Prime Minister – Winston Churchill disagreed and directed the programme be cancelled in March 1940.

By late 1941 the Fleet Air Arm's

desperate need for a single-seat fighter could no longer be ignored. Several Spitfire Is were loaned to the Royal Navy for testing. Legendary test pilot Eric 'Winkle' Brown, wrote: "Everyone admired the Spitfire and itched to fly it – but from an aircraft carrier? That was a horse of a very different colour!"

"None needed convincing of the performance or handling attributes of this magnificent fighter, which was, surely, one of the greatest warplanes ever conceived, but there was a certain air of fragility about the aeroplane; a ballerina-like delicacy that seemed inconsistent with the demanding, muscle-taxing scenario of shipboard operations."

From early 1942, the Fleet Air Arm started receiving Seafire Ibs, based on the Spitfire V. Fitted with an arrester hook and strengthened landing gear,

the newly designated aircraft were delivered between February 1942 and July 1943. Seafire Is and the more robust Mk.IIs, capable of catapult launch, did not have folding wings – which were desperately needed to conserve precious deck space.

FOLDING MK.III

The first production Seafire IIc was pulled from the production line to be used as the development aircraft for the manually folding wing. This consisted of a fold just outboard of the main undercarriage and another at the wing tip. Incredibly, this added only 125lb (56.7kg) to the empty weight.

At the same time, the Seafire's armament standardised on the Spitfire 'C' wing adjusted to delete the outboard cannon bays. A modified belt-feed mechanism was also installed, which gave a lower profile than the original and

allowed for small teardrop fairings to replace the large wing blisters.

The resulting Seafire III received the 1,470hp (1,096kW) Merlin 55, which had the same power as the Merlin 45 but with automatic boost control and barometric governing to reduce pilot workload. The combination of the Merlin 55, cleaner wing and a four-bladed propeller gave the Mk.III a 20mph advantage over the Mk.IIc at all altitudes.

The Seafire III was faster than the Grumman F6F-3 Hellcat between 3,000 and 14,000ft (914 and 4,267m) and evenly matched in speed with the Vought F4U-1A Corsair between 6,000 and 10,000ft. It also enjoyed better climb rates and acceleration than both of these Allied fighters. More importantly, the Seafire bettered the Mitsubishi A6M5 'Zero' at low altitudes.

Manufactured from April 1943 to

July 1945, the Seafire III was the most produced variant, with 1,220 built out of a total production of 2,334. Identical to the F.III with the exception of a Merlin 55M optimised for low altitudes, the LF.III was the fastest of all Merlin-engined Seafires, capable of 358mph at 6,000ft. Indeed, it was still the fastest and quickest climbing Allied carrier fighter in 1945.

PURE EXHILARATION

The Seafire's combat debut came in November 1942 when the type flew from HMS *Furious* in support of the Operation Torch amphibious landings in North Africa. Seafires also fought over Sicily in July 1943 and again at Salerno that September.





"Everyone admired the Spitfire and itched to fly it - but from an aircraft carrier? That was a horse of a very different colour!"

Unfortunately the type's challenging carrier landing characteristics were the main reason only 39 of the original 106 Seafires were operational two days into Operation Avalanche, the Salerno invasion. Although

air support for the liberation of Singapore. Arriving at Trincomalee, Ceylon, on March 20, 1944, *Stalker's* aircraft disembarked at Katukurunda.

During its time in Ceylon, PP972 flew supporting landings in Rangoon (Operation Dracula), attacked Japanese coastal bases (Operation Bishop), conducted offensive sweeps of Japanese air bases (Operation Balsam) and provided air cover for the landings in Malaya (Operation Zipper).

When the fleet entered Singapore harbour on September 10, 1945 following the surrender of Japanese forces,

on the French Mediterranean coast, PP972 flew with Flottille 1 and wore the code '1.F.9'. Sometime between August and December 1948, it was transferred to Flottille 12, also at Hyères, with the code '12.F.2'. Service on the carrier *Arromanches* with Flottille 1 in Indo-China has been mentioned, but seems unlikely as Flottille 12 was formed while the carrier was in the Far East.

Richard Grace, the pilot of PP972 today, takes up its history: "The Seafire was retired from active service in 1949 and used for ground instruction, and later put in a storage facility next to the airfield at Hyères. This became a scrapyard and the Seafire stayed in this yard in one piece until the 1970s.

"It's my understanding that, almost on the day it was

improvements to the airframe and better pilot training were introduced, more Seafires were lost in landing accidents than in combat throughout the war.

In the Pacific theatre, Seafires of 887 and 894 Squadrons aboard HMS *Indefatigable* supported the landings at Rangoon, Okinawa and beyond. The type's zenith came on August 15, 1945, shooting down eight enemy aircraft for the loss of one Seafire.

In all, Seafire pilots claimed a total of 39 'kills'. Top scorer was Sub Lt R. H. Reynolds DSC of 894 Squadron with 4½ victories. Another successful pilot, Lt Gerry Murphy of 887 Squadron, claimed a pair of kills in the type's final combat of World War Two. He wrote: "When I first flew the Seafire it was pure exhilaration... It was extremely responsive. I also flew the Hellcat, which was a very robust aircraft, but it was like flying a steamroller... Compared to the Hellcat, the Seafire was rather delicate... It was the difference between a racehorse and a carthorse."

FAR EAST ACTION

Since June 2015, Britain has enjoyed an airworthy Seafire III, PP972, civil registration G-BUAR. One of 250 LF.IIIcs ordered from Westland in July 1943, it left the Yeovil factory on September 27, 1944 before delivery to 809 Squadron in November, as the unit was converting from Seafire IIs to IIIs.

In November, 809 embarked on HMS *Stalker*, bound for the Far East. *Stalker* became part of the Royal Navy's East Indies Fleet, consisting of six escort carriers to provide

PP972 flew air cover. Throughout this period, it wore the codes 'D-6M.'

Returning to the UK in September aboard *Stalker* and arriving in the Irish Sea on October 21, 1945, PP972 flew from Nutts Corner, Northern Ireland, until 809 Squadron disbanded in January 1946. Following a brief period in storage, it went to 767 Squadron as part of 1 Operational Flying School in May, initially based at East Haven and then Lossiemouth, both in Scotland. Eventually PP972 was based at Lossiemouth's satellite airfield of Milltown, where it wore the code '120'.

FRENCH ACCENT

Eventually, PP972 became one of 65 Seafire LF.IIIcs delivered to the French Navy in 1948. Bought for an incredible £80 each, only 30 were supplied in airworthy condition. The other 35 were intended to be used for spares and had been struck off charge by the Fleet Air Arm, but the French flew all 65 to France without mishap!

Based at Hyères, east of Marseille

due to be scrapped, it was saved by a local enthusiast named Jean Frélaud who, over a few years, carried out a static restoration and displayed it in a variety of colour schemes. The aircraft was purchased by its current owners in 1984 and a restoration commenced soon after. "Restoration was attempted by a few organisations over a number of years with utmost attention being paid to utilising original structure. Unfortunately, during one of these attempts, the twist that the fuselage would have got from extensive carrier operations was duplicated rather than rectified. This twist necessitated complete restoration of the fuselage structure which was carried out in the early 2000s."

Stored for a number of years, PP972 was eventually shipped to Air Leasing at Bentwaters in Suffolk in 2013. Restoration work started immediately and after a few years

Right After a thorough restoration, the Seafire III has been returned to the colours it wore with 809 Squadron in 1945.





“Although improvements to the airframe and better pilot training were introduced, more Seafires were lost in landing accidents than in combat throughout the war.”



Right
Seafire III PP972 was
one of 250 ordered
from Westland in 1943.
It was delivered to
809 Squadron in
November 1944.

of 'hard graft', it flew for the first time since 1949 on June 15, 2015 with Richard piloting. The Seafire is painted in the colours worn when it was part of 809 Squadron in 1945, flying from HMS *Stalker*.

DELIGHT TO FLY

Son of renowned Spitfire restorer and pilot, the late Nick Grace, and well-known Spitfire pilot and operator Carolyn Grace, Richard achieved his pilot's licence aged 19. He has "always been interested in flying; in fact, I'd say I've never been interested in anything else. Our family's Spitfire [two-seater Mk.IX ML407] was test flown when I was less than a year old so I've grown up with it.

"I'm lucky enough to fly our Spitfire quite a lot and am also lucky enough to have flown a few other warbirds: Hurricane, Yak-3 and Sea Fury."

Asked what the Seafire is like to fly,

Richard said he was pleasantly surprised to find that its handling has not been adversely affected by the weight of the wing fold mechanism. "The Seafire is a delight to fly, light on the controls and with particularly good ailerons.

"The all-metal elevator gives a somewhat more responsive feel to it. The aircraft itself is very light and goes up very well – the rate of climb was well in excess of what I had expected." (The elevator was metal covered because rocket-assisted take-off gear – small solid-fuel rocket motors fitted as standard from 1943 to assist with short take-offs – would burn the fabric off a normal elevator.)

"On the ground, it's much like any other Spitfire – pneumatic brakes and a poor forward view are always an interesting combination but as long as you know how to manage it, it doesn't present any problems.

"The take-off is spritely, to say the least, as it seems to leap off the ground a long time before you expect

it to. It is essentially a Mk.V Spitfire with a four-blade prop, so I suppose that's to be expected, although its Fleet Air Arm camouflage scheme is a ready reminder that I'm strapped into a Seafire.

"The Seafire is surprisingly different to our family Mk.IX Spitfire. With the shorter engine bearer, the centre of gravity is naturally further aft which makes it a bit more sensitive in pitch – never a bad thing. It also has a very powerful engine for its weight. It's basically the perfect combo: light with lots of power!

"In combat, I think the Seafire would have been an absolute delight. This was well reported by the chaps that flew them during the war.

"The difficulties would arise with putting it safely back on the carrier, which I think would have been a truly unenviable task, not because it would have been especially difficult but because the Seafire is so fragile by comparison

describes what it was like to experience Supermarine's sea-going 'Spit': "The Hurricane was a good aeroplane, on land, on a deck or in the air.

"The 'Spit' was adequate on a runway; bad, as it turned out, on a deck, but in the air one of the most exquisite machines ever made by man. It was beautiful to look at with that knife-fine wing section and the two sheer ellipses of its leading and trailing edges, and with that flowing line from spinner to fin.

"And it was beautiful to fly – light and quick on the controls, without vices... Against its incomparable virtues could be set its silly little undercarriage, which was quite inadequate against the rough and tumble of deck landing, and the long, long nose which stretched away in front of the pilot and made him practically blind in the traditional, nose-up, deck landing attitude."

to the other carrier-borne types.

"I've not been lucky enough to have met any wartime Seafire pilots, but would very much like to – just to talk to them about getting on and off the carrier would be fascinating.

"I love flying the Seafire, predominantly because I'm so proud of myself and our team for actually getting it in the air. I really don't think there's anything more satisfying than flying something that you made work."

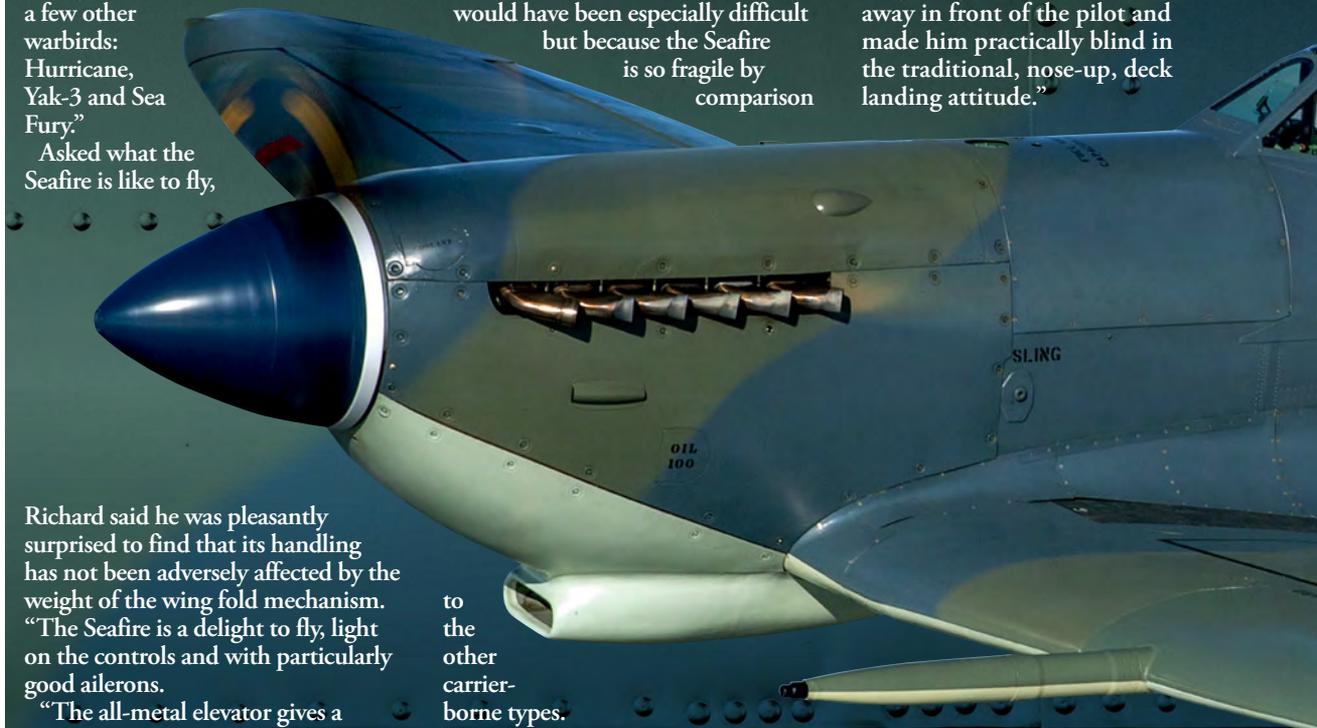
DOUBLY RARE

Very few Seafires are flying today, so LF.IIIc PP972 is a rare bird. With its combat history, it is an even rarer warbird.

Fleet Air Arm pilot Hugh Popham

The Seafire is a unique example of an aircraft originally developed solely for land-based operations that was also successful when launched from carriers. Despite its shortcomings, it provided a much needed fighter for the Royal Navy. Very few aircraft can claim that kind of crossover success.

The author thanks Richard Grace for taking time to share the thrill of flying the Seafire. Also, thanks to the owner for restoring this seaborne Spitfire to the air, where she belongs! And special thanks to Darren Pitcher for the detailed, unique history of PP972.





"I love flying the Seafire, predominantly because I am, so proud of myself and our team, for actually getting it in the air. I really don't think there's anything more satisfying than flying something that you made work."

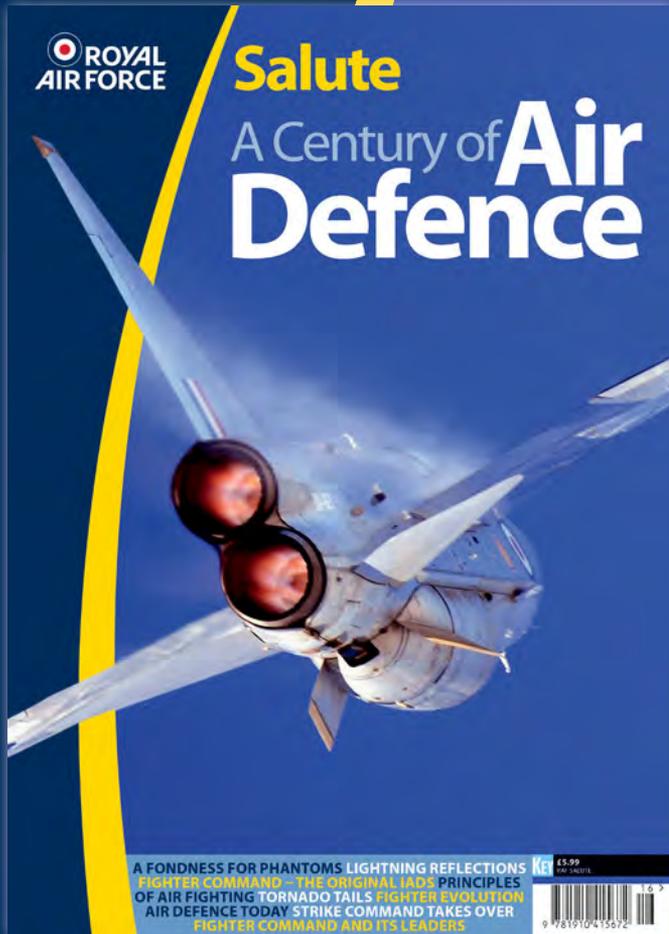




FlyPast

Richard Grace flying Supermarine
Seafire III PP972. ©JOHN DIBBS





Officially endorsed by the Royal Air Force, this 100-page souvenir publication marks the 80th anniversary of the formation of RAF Fighter Command and the RAF's enduring commitment to the defence of Great Britain. Written and edited by expert contributors, this exciting 100-page special magazine provides an insightful overview of the RAF's primary role, from early Royal Flying Corps operations against Zeppelin airships, through the colourful inter-war period, the Battle of Britain and on to today's Eurofighter Typhoon.

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FlyPast Spotlight

Douglas Boston

19 Pages in detail

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Main picture
A pair of Douglas Boston IIIs of 88 Squadron during World War Two. KEY

This month, Spotlight shines on an American-designed attack, light bomber and intruder aircraft that flew in several theatres of war. Although generally less well remembered than some of its contemporaries, the Boston – mostly known as Havoc in US service – was extremely successful. With exclusive artwork and rarely seen images, we look back on the service record of a genuine ‘unsung hero’ of the skies.



The Douglas Boston

Above
Douglas Boston III AL754 of 107 Squadron. Damaged in a 1942 'op' over Eindhoven, this aircraft overshot on landing at Great Massingham, Norfolk, and was damaged beyond repair.

Certainly one of the less celebrated machines of World War Two, the Douglas DB-7 Boston (mostly known as the Havoc in US hands) was among the most significant strike aircraft of the conflict, and was built in large numbers.

Most American aircraft were initially used by US forces before being adopted by European nations, but in the case of the DB-7 it was arguably the French who first saw the design's potential. The Model 7B prototype made its first flight on October 26, 1938, and following some modifications, the production version was ordered by France.

The first DB-7 was fitted with Pratt & Whitney Twin Wasp engines but these were replaced by more powerful Wright Cyclones in the improved DB-7A, which also featured a larger fin and rudder. The 7B version, built in much larger numbers, was redesigned with a stronger fuselage and had greater fuel capacity.

By the time the first of the Douglas machines arrived in France, the nation's struggle to repel German invaders had reached a crisis point. Few were used in anger prior to

the French surrender. While some surviving aircraft went on to fly with the Vichy French, the majority of the order was diverted to the RAF, adding to the numbers that Britain had ordered itself.

The British name for the DB-7 was Boston, with the 7A being the Boston II and the 7B being the Boston III. British Commonwealth nations usually referred to the type as the Boston, while intruder and night-fighter variants were usually known as the Havoc. In USAAF hands, the DB-7 was designated A-20 Havoc, with night-fighters referred to as P-70s.

The RAF had more than 1,000 Bostons in service by early 1942 – the aircraft were operated both from home bases and in the North Africa and Mediterranean theatres. They were later used on and around D-Day. While older examples were flown as trainers, others were converted to fulfil a variety of roles – the most visually striking of these were the 70 that were modified to 'Turbinlite' configuration, each carrying a powerful searchlight in the nose. It was hoped these would illuminate enemy aircraft at night, aiding accompanying night-fighters to destroy them.

In US service

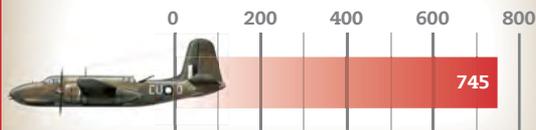
Having evaluated the aircraft, the USAAC placed an order for 63 in June 1939. The main difference between the A-20 and the DB-7B/Boston III was that the former had turbocharged R-2600-11 engines. Early models were otherwise essentially the same as those used by the RAF with the addition of US equipment and provision for a remotely controlled machine gun in the rear of each nacelle.

The most widely produced of the early Havoc generation was the A-20B, while the 'C' model featured stronger armour and self-sealing fuel tanks. The majority of the former were sent to Russia under a Lend Lease agreement. The aircraft proved to be unusually versatile, resulting in an array of different variants, including a night-fighter version that had radar and six machine guns in a solid nose.

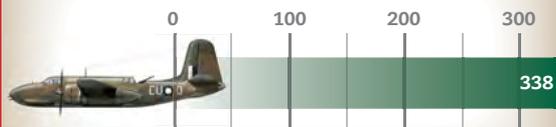
Like their RAF equivalents, USAAF Havocs first saw action over Europe in 1942, and were used effectively in both North Africa and the Mediterranean. Although the type appears to be less well remembered than some of its contemporaries, it was popular with its crews and garnered considerable success.

Douglas DB-7B Boston III

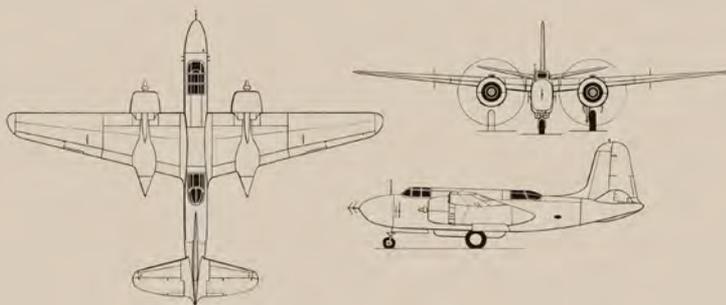
AT A GLANCE: RANGE (miles)



AT A GLANCE: SPEED (mph)



AT A GLANCE: CEILING (feet)



- Construction:** A total of 7,385 were made of all variants, including 999 A-20B Havocs, 948 A-20Cs and 781 DB-7Bs.
- First Flight:** The Douglas Model 7B prototype made its maiden flight on October 26, 1938.
- Powerplants:** Two 1,600lb (1,193kW) Wright R-2600 Double Cyclone 14-cylinder radials driving three-bladed propellers.
- Dimension:** Span 61ft 4in (18.7m). Length 47ft 6in. Height 17ft 7in. Wing area 460sq ft (43sq m).
- Weight:** Empty 15,051lb (6,827kg). Loaded 20,230lb.
- Performance:** Max speed 338mph (544km/h) at 12,500ft (3,810m). Service ceiling 27,600ft. Initial rate of climb 2,000ft per min. Range with 1,000lb load 745 miles (1,200km).
- Armament:** Four 0.303in machine guns in nose, plus two in dorsal position and one in ventral position. Max bomb load 2,000lb (907kg).
- Crew:** Usually three - pilot, navigator/bombardier, wireless operator/gunner.

Note: performance and weights varied according to role and configuration.

The Royal Australian Air Force operated a single squadron of Bostons – one that earned an enviable reputation. From 1942 onwards, 22 Squadron flew in

support of army operations against the Japanese, as well as photo reconnaissance and ground attack strikes. These were intensive and sometimes costly endeavours that nevertheless struck at the heart of the enemy. Boston pilot Flt Lt William Newton was posthumously awarded the Victoria Cross for

pressing home two separate attacks in the face of overwhelming enemy fire in March 1943 (see page 76).

The Havoc's final incarnation was the modified A-20G to K series, which were optimised for attack missions. Most of them had solid noses and a variety of machine guns and cannon. They were used for low level raids in Europe, the Mediterranean and the Pacific until the end of the war. Meanwhile the RAF continued to fly tactical support 'ops' in its Boston IV and Vs until VE Day. ●

Below
A flight of RAF Bostons during World War Two.
BOTH KEY





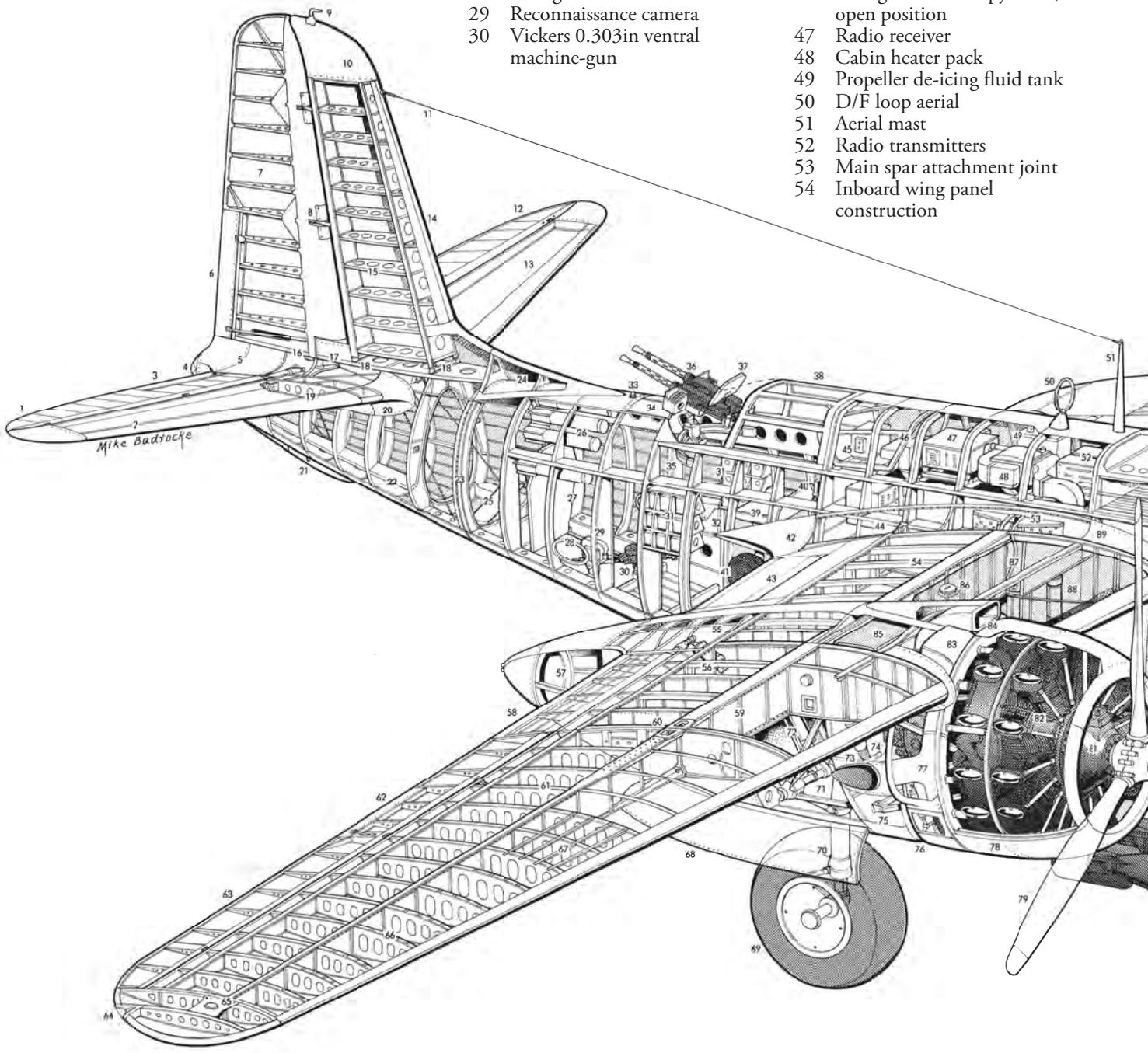
Spotlight

Douglas Boston

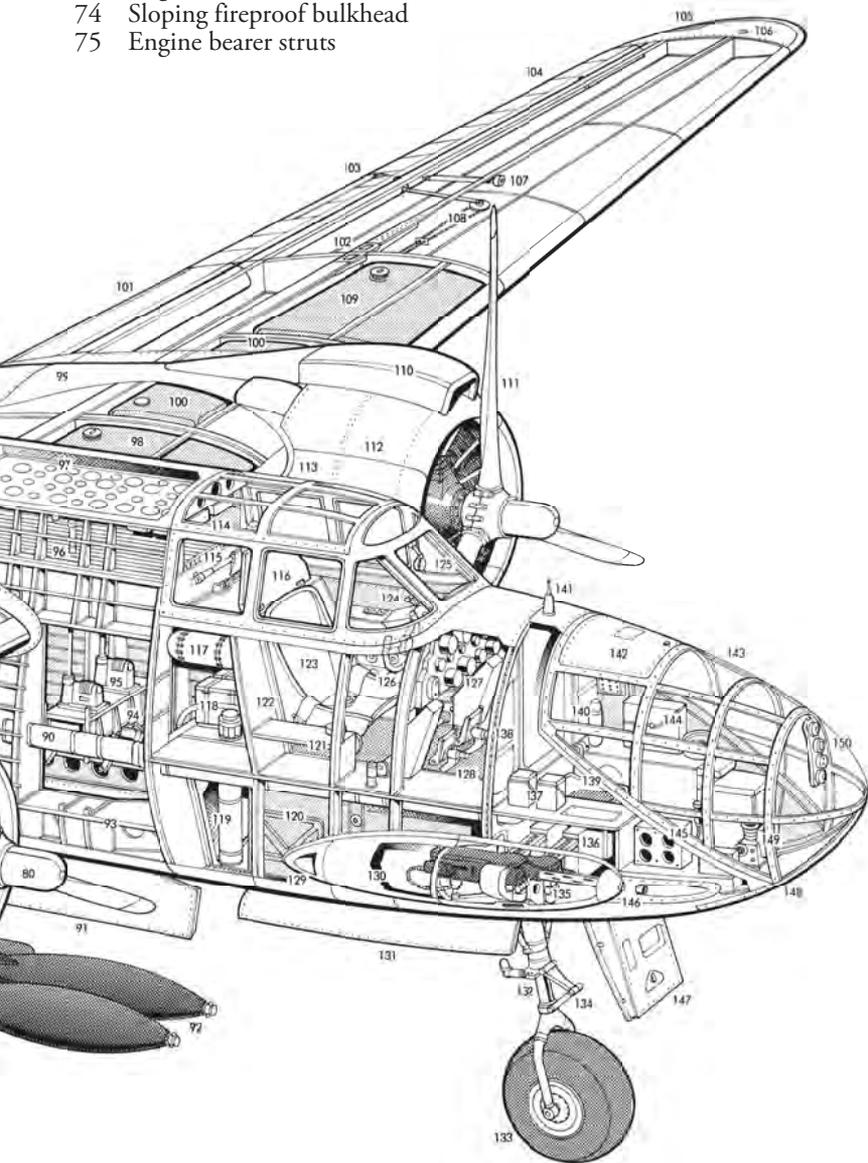
- 1 Starboard fabric-covered elevator
- 2 Starboard tailplane
- 3 Elevator tab
- 4 Tail navigation and signal lights
- 5 Tail cone
- 6 Rudder tab
- 7 Fabric-covered rudder construction
- 8 Rudder hinges
- 9 Pitot tube
- 10 Fin tip fairing

- 11 Aerial cable
- 12 Port elevator
- 13 Port tailplane
- 14 Fin leading edge
- 15 Tailfin construction
- 16 Elevator hinge control
- 17 Rudder hinge control
- 18 Fin attachment joints
- 19 Tailplane stub attachment
- 20 Tailplane root fillet
- 21 Tail bumper
- 22 Tail cone construction
- 23 Rear fuselage/tail cone joint frame
- 24 Fin root fillet
- 25 Flare launcher
- 26 Reconnaissance flares
- 27 Ventral hatch cover, open
- 28 Rear gunner's side window
- 29 Reconnaissance camera
- 30 Vickers 0.303in ventral machine-gun

- 31 Spare ammunition containers
- 32 Map case
- 33 Upper identification light
- 34 Dorsal gun stowage doors
- 35 Dorsal gun mounting ring
- 36 Twin Browning 0.303in (7.7mm) machine-guns
- 37 Armour-plated screen
- 38 Rear gunner's cockpit enclosure
- 39 Gunner's seat
- 40 Rear emergency control column
- 41 Trailing aerial reel
- 42 Wing root trailing edge fillet
- 43 Starboard inboard flap
- 44 Rear spar attachment joint
- 45 Radio racks
- 46 Rear gunner's canopy cover, open position
- 47 Radio receiver
- 48 Cabin heater pack
- 49 Propeller de-icing fluid tank
- 50 D/F loop aerial
- 51 Aerial mast
- 52 Radio transmitters
- 53 Main spar attachment joint
- 54 Inboard wing panel construction



- | | | |
|--|---|--|
| 55 Main undercarriage wheel well housing | 76 Cooling air exit flaps | 92 Forward pair of 500lb bombs. |
| 56 Hydraulic flap jack | 77 Exhaust collector ring | Max bomb load 2,000lb |
| 57 Nacelle tail fairing | 78 Detachable engine cowlings | 93 Lower fuselage box beam construction |
| 58 Outer flap construction | 79 Hamilton Standard three-bladed, constant speed propeller | 94 Bomb carrier |
| 59 Main spar | 80 Propeller hub pitch change mechanism | 95 Bomb hoist winches |
| 60 Outer wing panel attachment point | 81 Propeller reduction gearbox | 96 Bomb bay top decking |
| 61 Wing ribs | 82 Wright GR-2600-A5B Cyclone, two-row radial engine | 97 Cockpit entry hatch aft extension |
| 62 Aileron tab | 83 Upper cooling air duct | 98 Port inboard main fuel tank |
| 63 Fabric-covered aileron construction | 84 Carburettor air intake | 99 Engine nacelle fairing |
| 64 Formation light | 85 Starboard oil tank | 100 Port oil tank |
| 65 Starboard navigation light | 86 Fuel filler cap | 101 Port outer flap |
| 66 Leading edge nose ribs | 87 Inboard main fuel tank | 102 Outer wing panel joint |
| 67 Wing stringer construction | 88 Bomb door central hydraulic jack | 103 Aileron trim tab |
| 68 Mainwheel door | 89 Wing root fillet | 104 Port aileron |
| 69 Starboard mainwheel | 90 Cockpit heater duct | 105 Formation light |
| 70 Undercarriage leg strut | 91 Bomb doors | 106 Port navigation light |
| 71 Mainwheel pivot mounting struts | | 107 Trim tab screw jack |
| 72 Hydraulic retraction jack | | 108 Aileron hinge control |
| 73 Engine exhaust | | 109 Port outer auxiliary fuel tank |
| 74 Sloping fireproof bulkhead | | 110 Carburettor intake tropical air filter housing |
| 75 Engine bearer struts | | 111 Port propeller |
| | | 112 Port engine nacelle |
| | | 113 Cockpit roof entry hatch |
| | | 114 Emergency equipment packs |
| | | 115 Crash axe |
| | | 116 Pilot's folding head armour |
| | | 117 Hydraulic reservoir |
| | | 118 Batteries |
| | | 119 Signal flare |
| | | 120 Nose undercarriage wheel bay |
| | | 121 Trim tab control handwheels |
| | | 122 Cockpit sloping bulkhead |
| | | 123 Pilot's seat |
| | | 124 Engine throttle and controls |
| | | 125 Armoured windscreen |
| | | 126 Control column handwheel |
| | | 127 Instrument panel |
| | | 128 Rudder pedals |
| | | 129 Gun gas exhaust vent |
| | | 130 Fixed forward gun blister fairing |
| | | 131 Nosewheel doors |
| | | 132 Nose undercarriage leg strut |
| | | 133 Nosewheel |
| | | 134 Torque scissor links |
| | | 135 Twin fixed Browning 0.303in machine guns |
| | | 136 Ammunition boxes |
| | | 137 First aid and emergency ration packs |
| | | 138 Nose compartment joint frame |
| | | 139 Observer's seat |
| | | 140 Vacuum flask |
| | | 141 Pilot's fixed gunshot |
| | | 142 Observer's ditching hatch |
| | | 143 Nose compartment glazing |
| | | 144 Map case |
| | | 145 Bomb electrical switches and release control |
| | | 146 Fixed gun muzzles |
| | | 147 Observer's entry hatch |
| | | 148 Bomb aiming window |
| | | 149 Drift sight |
| | | 150 Observer's instrument panel |



Douglas Boston

Paul Bingley describes the exploits of the Havocs of the USAAF's 416th Bomb Group

Below
Havocs of the 416th lined up on Wethersfield's perimeter track.

By the time the US Ninth Air Force was activated in November 1942, the British-named Douglas Boston had already seen combat in the European, Mediterranean and Middle East theatres. Its American alter ego, the A-20 Havoc, appeared as a low-level attack aircraft in the Pacific during the summer of 1942. Destined to join the European fray with the Ninth in 1944, the Havoc ended the war having lived up to its name.

On February 4, 1943 the 416th Bombardment Group (BG) was activated at Will Rogers Field, Oklahoma and was the first of three light bomb groups to receive A-20s within the Ninth. Comprising a headquarters and four squadrons (the 668th, 669th, 670th and 671st), its initial cadre of officers and enlisted men was drawn from the 46th BG, which had flown Havocs in anti-submarine and sea-search missions over the Gulf of Mexico in early 1942.

Initially functioning as an operational training unit, the 416th was headed by Lt Col Richard D Dick. In line with the Ninth Air Force doctrine that "mobility on

the ground is what flexibility is in the air", Dick despatched his men on a series of under-canvas exercises designed to aid a swift move across the English Channel in the event of a Continental invasion.

Aircrew were lectured on aircraft recognition, navigation and bombing theory. Others were sent for transition flying with the 46th BG at Amarillo, Texas. In March, the 416th took delivery of its first Havocs when six Long Beach-built A-20Bs were divided among its squadrons.

At the end of May 1943 the group received orders to move from Will Rogers Field to Lake Charles, Louisiana, for its next phase of training. The new base offered superior maintenance facilities, including two hangars. Due to its small number of Havocs, the 416th's flying time remained largely restricted but an extensive ground training programme was devised for the crews, including Link trainer sessions.

Alarming accidents

Three weeks after arriving at Lake Charles, two A-20s took part in a simulated low-altitude bombing

attack on a US Army tank column operating near Newton, Texas. While approaching in close formation, the Havocs banked too closely together. The starboard propeller of 2nd Lt Howard J Hildebrandt's A-20G scythed through the fuselage of 2nd Lt Paul F Curdy's A-20C, slicing it in two. Both aircraft crashed in flames 200 yards ahead of the tanks, killing all six aircrew.

September 4, 1943 heralded the start of an alarming period for the 416th. While formation training over Vinton, Louisiana, two A-20Gs collided. Both pilots – 2nd Lt Robert W Morton and 2nd Lt Walter J Burke – were killed, the latter in an unsuccessful parachute jump.

There was some good news. Just as the Ninth Air Force was being re-formed and transferred to the UK from North Africa, the 416th's role changed from training to tactical. Morale was further boosted when its officers were ordered to begin preparations for overseas movement.

Departure almost came quicker than expected when a hurricane alert forced the Havocs to flee Lake Charles for the safety of Muskogee,

Well



Named

Oklahoma, and the group's former base at Will Rogers Field. But still danger persisted.

During gunnery training on October 1, a flight of three A-20s scoured the Gulf of Mexico in search of targets. The A-20G of 2nd Lt Walter C Morris and his two gunners inexplicably struck the water 4 miles from shore and disintegrated. Their bodies were never recovered.

Nine days later, during a simulated strafing attack, two A-20s collided, killing six crew members. The following week two more Havocs were destroyed in separate accidents, killing three men.

Essex-bound

The accident rate coincided with changes in both leadership and location. The commander of Lake Charles, Colonel Harold L Mace, replaced Lt Col Dick as the 416th's CO. A flurry of personnel changes followed as men began arriving from other A-20 units recently returned from supporting General Bernard Montgomery's Eighth Army in North Africa. A short while later, the 416th moved again, this time to Laurel, Mississippi. ➔



Left
Colonel Mace addresses
his men four days after
the 416th BG arrived in
Europe.

“To the men’s consternation, they arrived at their new home at Wethersfield in Essex to find a lone Havoc parked on an airfield still under construction”



SPOT FACT DB-7s that survived the Battle for France went on to fly with the Vichy French



Peculiar weather patterns at Lake Charles had been blamed for hampering flying training. With additional A-20s, and the more favourable conditions at Laurel, the 416th began an intensive working up period. Throughout December 1943 its Havocs conducted simulated attacks on Mississippi's Hancock bombing range. The changes helped.

On Christmas Eve, Col Mace declared the 416th was ready for combat and a week later its personnel headed for Camp Shanks, New York, ready to set sail for Scotland. To the men's consternation, they arrived at their new home at Wethersfield in Essex to find a lone Havoc parked on an airfield still under construction. Even so, the 416th had become the first Ninth Air Force A-20 group to arrive in the European theatre.

New role

Assigned to the 97th Combat Bombardment Wing, the group began receiving new A-20Gs nine days later. The commander of IX Bomber Command, Maj General Samuel E Anderson, arrived to tell the men what was expected of them. Aside from helping to cripple the Luftwaffe, the crews could expect to attack 'Noball' targets – German V-1 missile sites.

The 416th's A-20Gs took to the



“On March 7 the 416th made its first successful raid – on the Luftwaffe airfield at Conches. Twenty Havocs dropped 22,500lb (10,206kg) of demolition bombs along the centre of one of its runways”

Above
An A-20 Havoc of the 416th BG attacking one of 26 bridges targeted by the group.

Right
A-20s of the 669th BS during a bomb run.

air over England for the first time on February 12, 1944. Tasked with operational training, the crews found the East Anglian topography much harder to navigate than Louisiana's. Having also spent much of their time training at low level on the Estoppey D-8 bombsight, personnel found themselves learning to bomb from an altitude of 12,000ft using a pre-set Norden.

Two days later, 2nd Lt William D Minnicks was engaged in his first local training sortie. Pursued by another aircraft to test his evasive reactions, Minnicks pulled his A-20G into thick cloud before attempting to corkscrew down. His aircraft entered a high-speed stall and crashed 1½ miles from Wethersfield. The 416th had suffered its first loss on foreign soil.

Over the next fortnight the group underwent concentrated retraining in medium-altitude bombing and received additional Havocs. While



the new Havoc was quickly purloined by the 671st Squadron's commander, Major David L Willets.

Above
A direct hit on A-20J 43-10129 of the 671st BS over Beauvoir, France, on May 12, 1944. Two of its four crew, including pilot 1st Lt Robert E Stockwell, were killed.

V-weapon sites

Following a period of poor weather, the group returned to combat on March 19, making its first attack on a Noball site near the French town of Vacqueriette. A malfunction in the lead A-20 meant it dropped its warload prematurely and trailing crews took that to be the release signal. Some 61 bombs burst on and around the town of Gouy St Andre.

Left
The rear echelon of the 416th approaching the Normandy beachhead on September 16, 1944.

Supporting a raid by Eighth Air Force heavy bombers the next day, another Noball site, at Wisques, was attacked by 33 of the 416th's Havocs. They were forced to make several passes over the target amid intense and accurate flak.

Diverted from their initial bomb run by a B-17 Fortress which tumbled through the formation in flames, the crews were then distracted by the sight of a B-26 Marauder spinning earthwards on their second pass. One A-20G was forced to crash-land on the English coast and the remaining 32 returned to England, nursing the group's first serious battle damage.

Poor results followed a day later when the 416th attacked another V-weapon target in the Pas de Calais region. The commander of the Ninth, Lt General Lewis H Brereton, was unimpressed with IX Bomber Command's efforts and ordered a change of tactics.



equipped with a number of A-20Bs, most of its 27 aircraft were A-20Gs which boasted electrical Martin dorsal turrets, ventral guns and four underwing bomb racks.

Combat debut

Eighteen Havocs took off from Wethersfield on March 3, 1944 on their first operational mission – a diversionary raid on a Luftwaffe airfield at Poix, France. After a full year of training, the 416th finally reached enemy territory.

Their fighter escort failed to rendezvous off the French coast, and control at IX Bomber Command HQ at Marks Hall recalled the Havocs. A mission to Bernay-Saint-Martin was also brought back the following

day. One A-20G developed technical problems to such an extent that its pilot and two gunners were forced to bale out over the North Sea.

On March 7 the 416th made its first successful raid – on the Luftwaffe airfield at Conches. Twenty Havocs dropped 22,500lb (10,206kg) of demolition bombs along the centre of one of its runways.

The Ninth's second Havoc outfit to arrive in England, the 409th BG, arrived at Little Walden, also in Essex, just as the 416th returned from bombing Conches. The Wethersfield men welcomed a new arrival of their own – a brand-new A-20J which was assigned to carry out duties as a 'lead ship'. With a frameless Plexiglas nose and two fixed, forward-firing guns,



Above
The dangers the Havocs faced are graphically illustrated in this view of an A20 just after receiving a direct hit from flak. The tail has been completely severed from the fuselage, while the rudder can be seen above the right hand engine cowling.

Right
The group HQ at Melun Villaroche. Seated is Lt Col Aylesworth, who would become the 416th's CO.

Instead of a large element bombing on the signal of a lead aircraft, squadrons would despatch smaller 'boxes' of six, each fronted by a flight leader. The group CO, Colonel Mace, was no less harsh in his criticism, telling his men that the 416th was "a good group on paper" but "a washout in combat".

Doubling up

On April 10, 1944 the group's Havocs carried out the first of more than 50 'double' missions when they attacked separate Noball targets in the morning and afternoon. It was a costly day – two crews and three A-20s failed to return, the 416th suffering its first combat losses.

The group began experimenting. Instead of being loaded with four 500lb bombs, one A-20 took to the skies carrying eight on underwing racks. Due to the extra weight and increased drag, airspeed and manoeuvrability were significantly reduced.

The 416th employed the tactic on a mission to marshalling yards at Arras, France, on April 27, 1944. Six 500-pounders were hitched to a number of Havocs fitted with external racks. Although a roundhouse was successfully demolished, faulty mechanisms released some bombs erroneously – including one that fell on a small Essex village as the aircraft returned to Wethersfield.

By the beginning of May, IX Bomber Command had reached full strength with 11 groups in operation; three operated A-20s based in Essex, including the recently arrived 410th at Gosfield.

Bombing results against special



targets in northern France were also showing signs of improvement. A congratulatory message was sent by Commander-in-Chief of the Allied Expeditionary Air Force Sir Trafford Leigh-Mallory, who proclaimed that the Ninth Air Force had "proved to be by far the most efficacious in knocking out these difficult and well defended targets".

The 416th's 50th mission came on the morning of May 20 when 38 Havocs took off just after 10am bound for Beauvais-Tillé airfield. A navigation error caused the group to mistakenly identify Montdidier as the target. Two A-20s fell to flak, several others were badly damaged and one was forced to crash-land on return.

An equally disastrous mission took place seven days later. Led by the 409th BG, the 416th flew to attack marshalling yards at Amiens. After two of the 409th's box leaders were lost, the Havocs strayed off course. The 416th was forced to take the lead despite having many of its aircraft damaged by flak. When the decision was made to abort, three of its A-20s had been shot down.

Invasion force

As June 1944 arrived, the men found themselves restricted to the confines of Wethersfield. After black and white stripes were applied to the Havocs' wings on the 5th, speculation was rife. In the early hours of the following morning, Colonel Mace addressed his men to confirm the invasion was on.

Ten hours later, 57 A-20s lifted off to bomb a major crossroads at Argentan. Escaping bad weather, the 416th dropped to 2,000ft as it crossed the Normandy coastline. Flying past glider-strewn fields and waving French civilians, the Havocs released their bombs without flak or fighter interference: all returned safely.

A second mission to Serqueux, later in the evening, wasn't quite so fortunate. Of 39 Havocs sent, three were lost to heavy flak, including the A-20J of the 669th's commanding officer and Silver Star holder, Major Murdoch W Campbell. By the end of D-Day, the 416th had contributed almost 10% of IX Bomber Command's total sorties.

Six months into the group's European assignment its A-20s carried out their 100th mission. On July 18, some 36 Havocs targeted an enemy strongpoint at Giberville. Their task was to support Montgomery's Second Army as it attempted to capture the French town of Caen. All aircraft returned safely to Wethersfield, but several crew members were wounded in action.

As Allied troops continued to push towards Paris, the 416th saw another change in leadership. Colonel Mace assumed command of the 98th Combat Wing and its four B-26 groups and was replaced on August 3 by the 416th's deputy commander, Lt Col Theodore R Aylesworth, whose appointment preceded another costly raid 72 hours later.

A bridge spanning the Seine at Oissel represented one of the last remaining conduits for German troops attempting to reach the battlefield. Forty-one Havocs set out to destroy it on the morning of August 6, but were turned back because of poor weather.

Undeterred, the 416th despatched a further 39 A-20s during the afternoon. Realising the importance of the bridge, the Germans had positioned sizeable gun emplacements on either side of the river. Heavy flak succeeded in bringing down three A-20Gs and a number of others were severely damaged. Despite the losses, Maj General Samuel E Anderson of IX Bomber Command was glowing in his praise for the group's accuracy, which he described as "superbly accomplished".

Ready to go

By the beginning of September 1944, a rumoured movement of the 416th to the Continent became a reality. Packed and ready to go, there was one last 'first' to achieve before the group left Wethersfield.

Three dozen A-20s took off from the base on the 12th for a four-hour mission to the marshalling yards at St Wendal. The significance of the town wasn't lost on the participating crews. They were flying the first A-20s on the first Ninth Air Force mission to bomb Germany. The momentous

raid was carried out without the loss of a single Havoc.

Three days later, an advance echelon left England for a new Continental base. It was another eight days before the remainder of the 416th arrived at Melun Villaroche, southeast of Paris. The airfield – bombed by Eighth Air Force 'heavies' just after D-Day and a month before the group arrived – was in disarray.

After four days of partial reconstruction of the site, the 416th took off on its first mission from French soil. A German troop concentration at Forêt de Parroy in northeast France was successfully attacked over a two-day period.

A total of 72 A-20s targeted marshalling yards at Bitburg and Julich in Germany on September 29. Over the course of the day, five Havocs and 17 crew members were lost. A significant number of others were also wounded in action, including Lt C L McGlohn, who was piloting A-20G 43-9224. Affectionately known as *Miss Laid*, it was to become one of the most famous Havocs in Europe.

Invaders

The next day, Melun Villaroche witnessed the

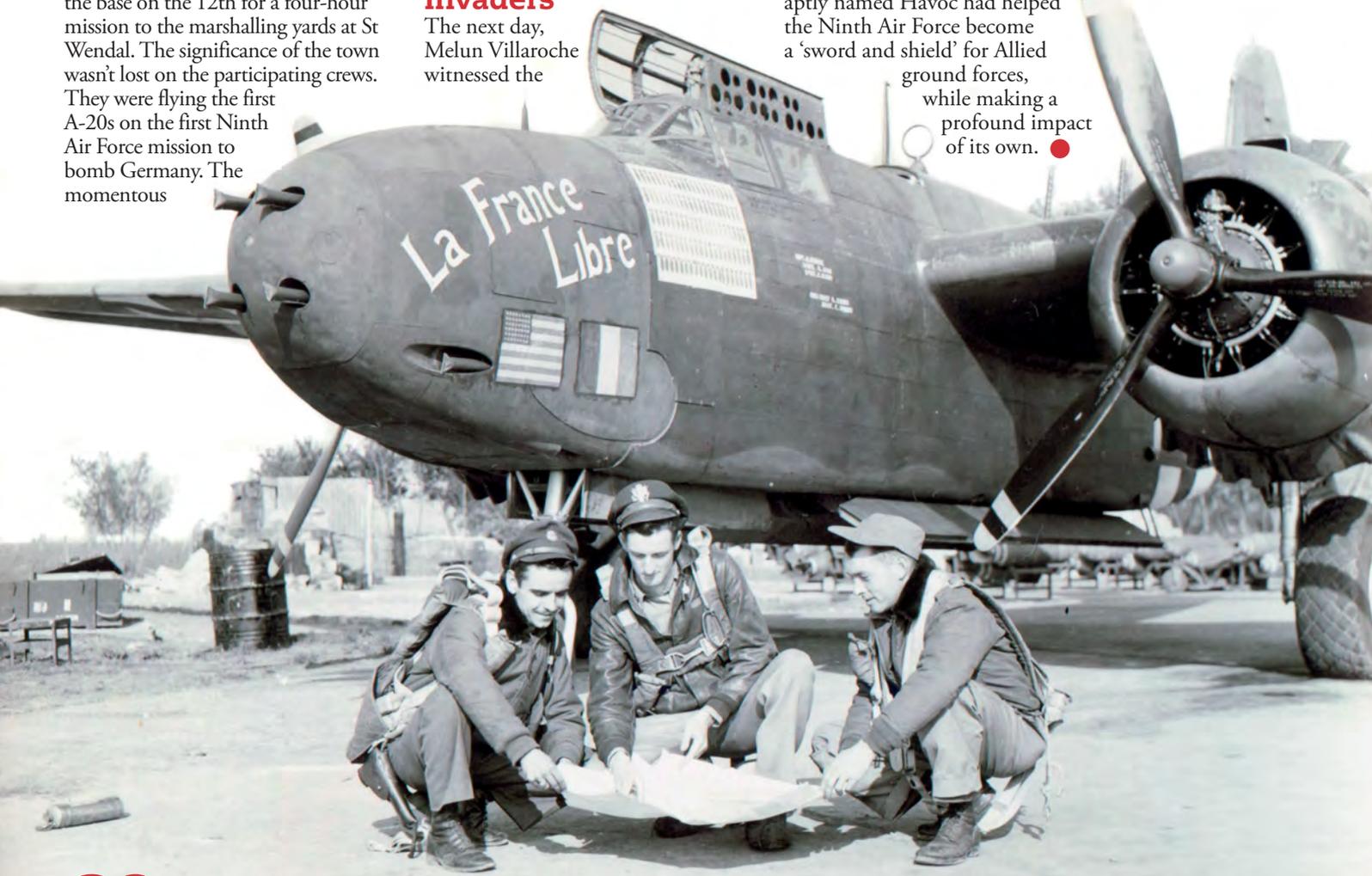
arrival of 15 brand new Douglas A-26 Invaders. The group quickly began converting its crews to the new bombers, which were assigned to replace the Havocs.

Having flown the 416th's first mission on March 3, 1944, *Miss Laid* completed 100 non-abortive missions, becoming the first A-20 in Europe to do so. Her original engines propelled her to Paris Le Bourget on November 4 where she was renamed *La France Libre* at a lavish ceremony in honour of her achievement during the fight to liberate the nation.

By the time the group commenced A-26 operations, it had operated every type of A-20 from the A-model to the 'K'. The 416th continued to employ its glass-nosed Havocs in lead positions on 53 more missions. Its last A-20 was lost on February 2, 1945 – the final raid by the type coming just four days later on the group's 199th operational mission.

Of more than 6,000 sorties flown by the A-20 in service with the 416th BG, 47 had been lost to flak or battle damage. But the aptly named Havoc had helped the Ninth Air Force become a 'sword and shield' for Allied ground forces, while making a profound impact of its own. ●

Below
A-20G 43-9224 'La France Libre' (formerly 'Miss Laid'), having completed 100 non-abortive missions.





Courage in the east

Andy Hay artwork of a Boston flown by Australian VC recipient
Flt Lt William Newton

Artwork
Douglas Boston
III (DB-7B) A28-15
DU-Q of the RAAF's
22 Squadron, one
of the aircraft
flown by Flt Lt
Bill Newton. **ANDY**
HAY-2016

A total of 22 Douglas Boston IIIs, usually listed by Australian sources as DB-7Bs, made up an initial batch transferred to the Royal Australian Air Force (RAAF) in mid-1942.

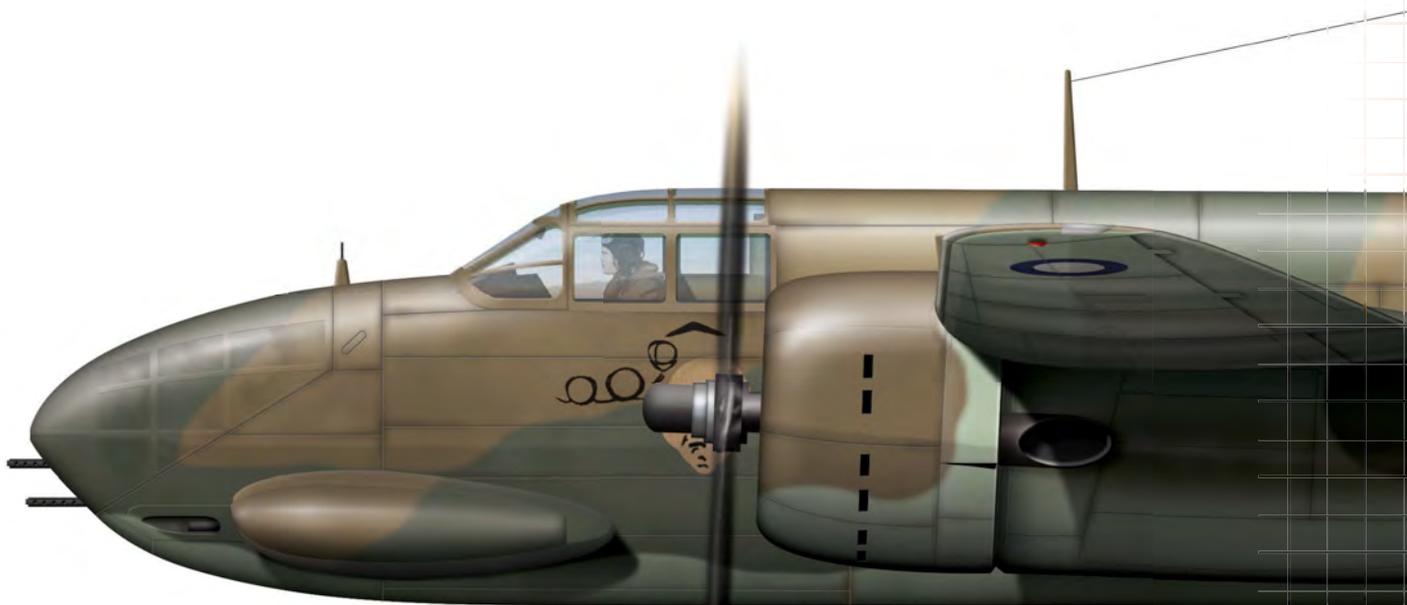
The aircraft were operated by 22 Squadron, which flew numerous low-level sorties against the Japanese over Papua New Guinea. Newly promoted Flt Lt William 'Bill' Newton

was posted to the unit, then based at Richmond in New South Wales, in May 1942. Moving with the squadron to Port Moresby, Bill undertook the first of 52 'ops' on January 1, 1943. He quickly gained a reputation for both bravery and accuracy, earning the nickname 'The Firebug'.

Flying Boston III A28-7 on March 16, Newton pressed home an attack on the enemy near Salamaua, successfully bringing his aircraft back despite it

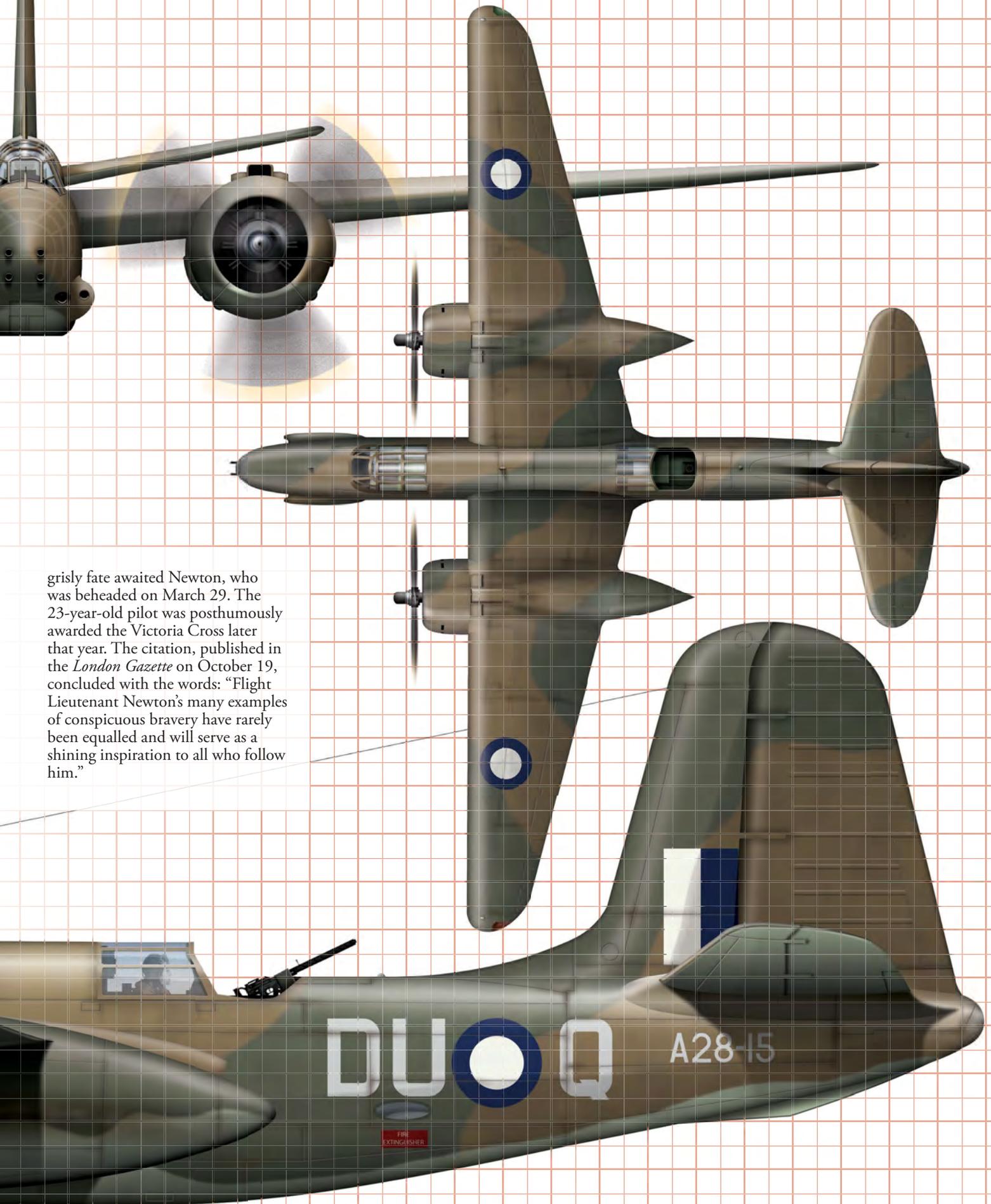
suffering extensive damage. Two days later, he again flew into the face of overwhelming fire, this time having to ditch his stricken Boston (A28-3) in the sea. Navigator Sgt Basil Eastwood was killed in the forced landing, but Bill and wireless operator Flt Sgt John Lyon managed to swim ashore.

Both were captured by a Japanese patrol, and – in an atrocious war crime – Lyon was bayoneted to death after being interrogated. A similarly



SPOT FACT Ed Heinemann led the design team that created the DB-7 series

**Boston
in profile**



grisly fate awaited Newton, who was beheaded on March 29. The 23-year-old pilot was posthumously awarded the Victoria Cross later that year. The citation, published in the *London Gazette* on October 19, concluded with the words: "Flight Lieutenant Newton's many examples of conspicuous bravery have rarely been equalled and will serve as a shining inspiration to all who follow him."

2,850 of the most numerous variant, the A-20G, were produced

**Douglas
Boston**

By Day and By Night

Graham Pitchfork highlights some masters of the Douglas Havoc night-fighter and Boston low-level raider

Below
A Havoc II night-fighter. KEY COLLECTION

Canadian-born Sqn Ldr Gordon Raphael and his English radar operator (RO), W N 'Nat' Addison, joined 85 Squadron at the beginning of April 1941. Addison was an aircraftman first class (AC1) and was promoted to sergeant in September. Raphael had flown bombers and Addison was one of the 'Few', having served on a Blenheim night-fighter squadron.

For two years the Raphael/Addison combination almost always flew together and they became one of the RAF's most successful night-fighter crews. After an initial period of familiarisation with Douglas Havocs, 85 was declared operational in early April and moved to Hunsdon, Hertfordshire, in the North Weald Sector.

The key to successful night fighting was teamwork. Pilot and RO were the main elements but the work of the controllers at the ground control interception (GCI) radar stations was crucial. Early air interception (AI - radar) sets had limited range, sometimes as little as two to three miles. It was the job

of the ground controller to vector the night-fighter to the right position and height to enable the RO to pick up the contact.

Then the RO gave instructions to his pilot to bring the Havoc just below and behind until a visual sighting was achieved. The pilot manoeuvred into position before opening fire.

Heaviest night

The night of May 10/11, 1941 saw the Luftwaffe mounting its heaviest night bombing effort against London and the RAF's night-fighter crews were soon in action. Raphael and Addison took off just before midnight and within 30 minutes



SPOT FACT The A-20G was fitted with a solid nose and a variety of armament

Men Behind the Boston



GCI took control of Havoc V-for-Vic and vectored the pair onto a target just north of London.

Level at 14,000ft, Addison obtained a 'blip' on his radar at maximum range and started to give instructions to Raphael. After four or five corrections, visual contact was made at 600 yards (548m) slightly above and dead ahead.

Raphael closed to 100 yards and identified the enemy as a Heinkel He 111. He fired a four-second burst at the starboard engine and the bomber burst into flames and went into a spiral dive.

At about 8,000ft it came out of its gyrations but did not pull out and exploded just before it crashed near Chelmsford, Essex. Raphael and Addison had destroyed He 111 '1T+HH' of I/KG 28 piloted by Lt D Kruger, who lost his life along with his crew.

During this raid, more than 1,400 people were killed in London and one-third of the streets were rendered impassable. About 2,000 fires were started and the House of Commons, Westminster Hall and St Clement Danes Church (now the RAF church) were severely damaged. The RAF brought down 29 of the raiders and the anti-aircraft defences shot down a further four.

Within a few days the Luftwaffe withdrew many of its bomber units from France and the Low Countries as it prepared for operations in the Balkans and the invasion of Russia. Bombers continued to appear in the skies of Britain but 'tip and run' raids would, to a large extent, replace the large formations attacking the country's major cities.

Above
Havoc II AH525 of 85 Squadron. Note the nose and under-fuselage AI aerials.
KEY COLLECTION

Left
Wg Cdr Gordon Raphael
DSO DFC*

"Raphael closed to 100 yards and identified the enemy as a Heinkel He 111. He fired a four-second burst at the starboard engine and the bomber burst into flames and went into a spiral dive"

SPOT FACT The RAF first used its Bostons against enemy shipping in February 1942



Above
W/O 'Nat' Addison
DFC DFM.



Right
Sqn Ldr Dickie
Gunning (centre)
with Fg Off Jack
Ledgard (left) and Fg
Off Bill Brinn (right).



Two in one

On the night of June 13/14, 1941 Raphael and Addison achieved further success on what proved to be a busy night. Under the GCI control of Waldringfield in Suffolk, Addison vectored his pilot onto an He 111. The quarry opened fired on the Havoc but Raphael had too much speed, was unable to engage and the contact was lost.

While orbiting over Shoeburyness, Essex, at 10,000ft, Addison picked up a target at extreme range on his AI. Closing in, another He 111 was identified. It was weaving from side to side and Raphael fired a five-second burst from 100 yards, which provoked an immediate response

from the top gunner.

The Havoc's bullets struck the forward fuselage in a shower of sparks. The Heinkel dived and appeared to be out of control at 7,000ft over Gravesend. Raphael claimed a 'probable'. Post-war analysis revealed this to be He 111 '5J+KS' of III/KG 4 that ditched in the North Sea and the crew was rescued.

After this engagement, the Havoc crew was instructed by North Weald to continue patrolling in the Gravesend area. At 12,000ft, Addison soon picked up a blip at random and closed on a manoeuvring target, which proved difficult to intercept. Eventually, Addison put Raphael in a good position astern and he fired

a long burst into the fuselage and starboard engine of another Heinkel.

The pilot appeared to lose control as the He 111 dived away to port with the top gunner firing. Shortly afterwards, aircrew and ground personnel at Hunsdon saw the Heinkel explode in a great orange flash and crash on the Isle of Grain, Kent.

Although Raphael claimed the 'kill', post-war analysis shows that this machine was almost certainly destroyed by Plt Off Stevens whose 141 Squadron Hurricane was severely burnt as it flew through the fireball of the exploding bomber.

Plea for cannon

Ten days after this engagement on the night of June 23, 1941 Raphael and Addison were once again in action. Taking off just after midnight they had two unsuccessful attempts to close on a target. They were vectored on to a third approaching on the same track as the previous two.

This time a successful interception was made and Raphael closed to around 100 yards before opening up on a Junkers Ju 88, which was hit and immediately started to slow. As the Havoc overshot it was struck repeatedly by intense fire from its victim.

A bullet passed through Addison's clothing and scorched his thigh. Despite this he stayed at his radar and redirected Raphael for a second attack during which the enemy gunner was silenced. After a third run, the engines of the Junkers



Left
Men of 85 Squadron at Hunsdon in 1942 with Wg Cdr Raphael (back row, centre) and W/O 'Nat' Addison, kneeling extreme right.

Below
Bostons of 88 Squadron at Swanton Morley, Norfolk.

enemy aircraft at night". His pilot, Flt Lt Raphael was awarded a Bar to his DFC.

Promotions

June 1941 brought Addison long overdue promotion to sergeant and he was recategorised as an Observer (Radio). At the same time 85 Squadron started conversion to the Havoc II with 12 Brownings in the nose.

Taking off in the early hours of July 14 in a Mk.I, Addison and Raphael were taken over by Waldringfield GCI east of Aldeburgh, Suffolk. After an abortive attempt at an interception, Addison finally obtained a contact at maximum range. He gave frequent corrections to Raphael as the target made numerous hard turns and, eventually, they closed to 200 yards, visually identifying a Ju 88.

Raphael held his fire until he was just below the enemy at 50 yards when he unleashed short bursts into the starboard engine. Return fire was experienced but the Havoc was not hit and Raphael continued with further bursts into the raider's fuselage.

The Junkers caught fire and started to dive away steeply before striking the sea in flames. Like their previous victim, it was from 2/KFG 106.

During September, Raphael was promoted to squadron leader and appointed as a flight commander. A few nights later, he and Addison suffered a rare 'defeat' when they closed three times to visual range on a Ju 88 but the pilot skilfully evaded and finally out-ran the Havoc.

Taking off in Havoc II *T-for-Toc* from Hunsdon at 2300hrs on September 16, 1942 Raphael and Addison were immediately vectored by the North Weald controller, Sqn Ldr Stammers, on to a 'bandit' at 10,000ft and Addison obtained a contact, which he had difficulty holding, only regaining it after further assistance from GCI.

A 15-minute chase ensued during which the Havoc was twice illuminated by searchlights, enabling the enemy gunner to engage the chasing night-fighter. Despite it taking violent evasive action Addison held on to the radar contact tenaciously and finally brought Raphael into visual range at 300 yards.

Closing to under 100 yards, the pilot fired a two-second burst that set the enemy on fire and it plunged into the sea off Clacton, Essex. It was lit by searchlights as it fell in flames and identified as a Ju 88.

This was Ju 88C-4 'R4+NH' of I/NJG 2 on an intruder night mission from its base at Gilze-Rijen in the Netherlands. Three of the crew escaped by parachute and were taken prisoner.

Lean period

With many Luftwaffe units redeployed to Eastern Europe, targets for the night-fighter force were becoming scarce. Despite flying eight or nine night patrols each month, the crew had a long period of chasing elusive contacts with very few converted to interceptions.

They had to wait until July 1942 before achieving their next success. By this time Raphael had been promoted to wing commander upon taking command of 85 Squadron and Addison had become a warrant officer.

On the night of July 31, they took off in Havoc II *V-for-Vic*, one of ten aircraft launched on operational patrols. Flt Lt Neilson, the controller at GCI Easthill, gave Raphael and Addison several vectors to intercept at 9,000ft.

Addison gained the contact on his AI and *Vic* closed to minimum range before Raphael picked up a faint light from the ventral 'gondola' of the enemy, which he identified as a Ju 88. ➔

appeared to stop and it began a glide towards the sea. Raphael lost sight of it at 6,000ft.

Shortly after this a Ju 88 of 2/KFL 106 crashed into the sea off Harwich, Essex. This maritime variant was almost certainly part of a mine-laying operation aimed to disrupt East Coast convoy traffic.

Back at Hunsdon, 27 holes were found in Havoc *R-for-Roger*, the majority in the starboard engine. During the encounter, Raphael had fired 3,440 rounds. He considered that had the night-fighter been equipped with cannon, one attack would have achieved the same results as his five volleys with machine guns. He was not the first, and certainly not the last, to make the case for cannon.

Following this third success it was announced that AC1 Addison had been awarded the DFM for "displaying excellent skill having taken part in the destruction of three





Above
Gunning's last strike,
the steel works at
Denain.

Above right
The Philips factory
at Eindhoven under
attack on December
6, 1942.

He moved in to around 50 yards and fired two bursts of two seconds each on the target, which took no evasive action. Strikes were observed before it dived vertically from 8,000ft and crashed north of Cambridge. After the claim had been investigated it was awarded to the Oakington light anti-aircraft battery and Raphael and Addison had to be content with a 'damaged'.

Two days after this engagement, Addison attended a two-week navigation course and his friend Reg Bray took his place as Raphael's RO. Late the following night the new pairing shot down a Ju 88 off the east coast; the only occasion that Raphael achieved a victory without Addison.

The day of Addison's return from his course coincided with the arrival of 85's first DH Mosquito II. Deliveries were slow but Raphael exercised squadron commander's privilege and allocated it to himself and his dedicated observer.

Shortly after, Raphael was awarded the DSO and Addison the DFC and their tour came to an end. Just before the end of the war, Gordon Raphael was killed in a mid-air collision. Nat Addison completed a tour on Mosquito intruders and was content to remain a warrant officer.

Low-level raids

Based at Attlebridge, Norfolk, 88 Squadron flew Boston III light bombers. On July 3, 1942 Flt Lt Dickie Gunning DFM was posted in as a flight commander. Gunning arranged for his navigator throughout his previous tour on Blenheims with 107 Squadron, Fg Off Bill Brinn DFM, to join him.

Much had changed since their time on Blenheims with more potent



“Operation Oyster aimed to destroy the Philips radio and valve factory situated in a heavily built-up area of Eindhoven, in the Netherlands”

types entering service – Bostons, Mosquitos, Lockheed Venturas and North American Mitchells. Raids against ports and transportation lines of communication remained as part of 2 Group's remit but it also regularly attacked key industrial targets in Northern France and Holland. These 'circus' operations became routine for the 2 Group units.

Gunning's first 'op' on his second tour was a night low-level strike against the airfield at De Kooy in the Netherlands dropping his bombs from 900ft. Daylight circuses were against the docks at St Malo, the wharves at Ostend and other targets.

Eindhoven precision

Operating from its new base at Oulton, Norfolk, 88 spent much of November on major exercises practising large formation attacks at low level. This was a prelude to what became one of the most ambitious and famous low level raids of the war. Operation Oyster aimed to destroy the Philips radio and valve factory situated in a heavily built-up area of Eindhoven, in the Netherlands.

The main force consisted of 36 Bostons, 47 Venturas and ten Mosquitos. Fighter escort was available only as far as the Dutch coast on the way in and out.

At 1115hrs on December 6, a grey, damp Sunday morning, the Bostons

took off to form overhead. Leading the raid was Wg Cdr J Pelly-Fry, CO of 88 Squadron, with Gunning as deputy leader. Third to take off in the first section, Gunning tucked in on the starboard side of his CO.

At other East Anglian airfields the Venturas and the Mosquitos were getting airborne to meet their rendezvous. The success of Oyster depended on every crew adhering to precise heights, timings and navigation.

The large formation crossed the North Sea at less than 100ft and made a pinpoint landfall on the Dutch coast. This stirred wild geese and a number of aircraft were badly damaged by bird strikes.

Enemy defences were soon alerted and heavy ground fire was directed at the low-flying bombers. As they approached the target area, Focke-Wulf Fw 190s and Messerschmitt Bf 109s intercepted.

Approaching Eindhoven, the leader's navigation and timing were faultless. The first two aircraft ran in very low with 11-second delay fused 250lb bombs.

Gunning led the remainder in a climb to release from 1,500ft. He attacked the large primary target and saw his leader's bombs strike the factory. With all the defences alerted, a speedy withdrawal to meet up with the escort waiting off the Dutch coast



was essential and Gunning routed north of Rotterdam to link up. He landed back at Oulton 2hrs 30mins hours after taking off.

The raid proceeded with almost clockwork precision and the factory was so severely damaged that it took six months for it to resume full production. The price was high with the loss of 14 crews including one of the Ventura squadron commanders.

This single raid made a significant contribution to the Allied bombing effort and the Dutch resistance acknowledged that it had given a great boost to morale. For his outstanding leadership and skill in bringing back his severely damaged Boston, Pelly-Fry received the DSO and his navigator, Flt Lt Jock Cairns, was one of the eight awarded DFCs.

'Wg Cdr Smith'

Towards the end of December 1942, the newly promoted Sqn Ldr Gunning led six Bostons to Exeter, Devon, where they positioned for an attack the following day on the

lock gates at the entrance to the inner harbour of St Malo. Each carried four 500-pounders and they struck from 10,000ft with many bursts in the target area.

A few weeks later, Gunning commanded a similar raid by six Bostons from Hurn, Bournemouth, against a 12,000-ton ship in the dry dock at Cherbourg. He returned with flak damage. This was followed on February 13, 1943 by a further strike on the St Malo lock gates when Gunning led 12 aircraft from Exeter.

In March, 88 Squadron moved to Swanton Morley, Norfolk, and was declared non-operational until it had received sufficient new Mk.IIIAs. In early July, 16 Bostons put down a smokescreen for a major army exercise. Gunning led one of the sections, dropping 100lb phosphorous and 4lb smoke bombs.

Early in August, 88 resumed low-level operations against major targets. The tactics employed had the clear stamp of the new 2 Group leader, Gunning's old squadron commander, AVM Basil Embry. Although there was no requirement for Embry to take part, he continued to fly on ops describing himself as 'Wg Cdr Smith'.

Serious trouble

On August 8, Gunning and his crew led a flight against the naval stores depot at Rennes, which provided crucial supplies for the German U-boats sailing from the Biscay ports. Three Boston units took part, led by 107 Squadron with 88 and 342 (Lorraine) following.

Flying in sixes, line abreast, at 250ft, each aircraft carried 500lb bombs. The first formation dropped time-delay bombs as Gunning's flight climbed to 1,500ft for their run in. Despite considerable flak, the target was

described as "well and truly plastered" as photographic evidence later proved.

A week later, on August 16, an almost identical raid was mounted against the Denain steel works in northern France. Gunning led a dozen aircraft of 88 and they rendezvoused with the other two Boston squadrons. Again flying in loose formation six abreast, the force headed for the French coast with a Typhoon escort.

The attack went according to plan and considerable damage was caused but, as the aircraft left the target area, serious trouble was encountered. The sortie had been mounted in the late afternoon and visibility was severely affected by the countless small flies striking the windscreens. This was compounded by the need to leave the target pointing directly into sun.

The bombers had to spread out to avoid collisions and the intense anti-aircraft barrage around Arras was able to engage individual aircraft just as Luftwaffe fighters arrived. Within minutes, four Bostons of 88 were lost; one of them was Gunning's BZ 242.

Other crews had seen his aircraft with the starboard propeller feathered dropping behind the formation as they turned off the target. Nothing further was heard for a month when a telegram arrived on September 12 reporting that Brinn, Gunning's navigator, had arrived safely in Gibraltar.

This raised hopes for the rest of the crew and two days later, the Red Cross reported that Gunning and his gunner were prisoners of war. Sadly, the wireless operator Fg Off J Ledgard failed to escape from the doomed Boston and had been killed.

Dickie Gunning spent the rest of the war at the infamous Stalag Luft III at Sagan. Shortly after his release in April 1945, he left the service. ●

Left
Bostons raiding Rennes.

Below
Bostons of 88 Squadron at low level en route the Netherlands. ALL VIA AUTHOR UNLESS NOTED



Douglas Boston

From the Archive

A collection of rarely seen images of the Boston in
British and US wartime service



Above
Douglas A-20G-20-DO Havoc 42-86657 of the USAAF in flight during World War Two. The A-20G was produced in greater numbers than any other A-20 variant. ALL KEY

Spotlight Next Month

Fairey Firefly

Next month, our *Spotlight* will focus on the Fairey Firefly, a carrier-borne anti-submarine aircraft that served the Royal Navy's Fleet Air Arm well. A reliable and long-ranging machine, more than 1,700 were made. Having seen out the war, the Firefly continued to be a mainstay of the FAA, operating in a variety of roles until finally being retired in 1956. We examine the two-seater's history in our *September* issue, on sale in the UK on *August 1* – see page 116 for our latest money-saving subscription offers.



Douglas Boston Mk.III W8325 at Burtonwood, Lancs, in December 1941 following conversion to 'intruder' status. This aircraft went on to serve with the RCAF's 418 Squadron until April 11, 1943 when it failed to return from a night intruder mission over Melun-Villaroche, France.



Built as an A-20J, BZ403 flew with the RAF as a Boston IV. It was ferried to the UK in 1944 and served with the 2nd Tactical Air Force.



Douglas Boston III W8330. This aircraft flew with the RAF's 107 and 302 Squadron before being struck off charge on August 31, 1944. Note the distinctive hammer and sickle nose art.



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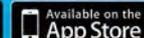
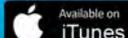
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BUZZ



Above
Lt Robert Elmore (left) and 2nd Lt Leonard Mapes (right)
with P-61 'Shoo Shoo Baby'. R.ELMORE

Below
P-61A 42-5569 'Tabitha' of the 425th
NFS at Vannes.
VIA J SCUTTS

A significant new USAAF contribution was about to enter the fray. Having worked up at Scorton, Yorkshire, the 422nd Night Fighter Squadron (NFS) settled in at Ford, Sussex, with a detachment of P-61A Black Widows to tackle the V-1 threat.

In the early hours of July 15 near Beachy Head, 2nd Lt Herman Ernst and his radar operator (R/O), Flt Off Ed Kopsel, in their usual P-61A, 42-5547 *Borrowed Time*, were vectored onto a V-1. Using his altitude to advantage, Ernst dived on the target, but the excessive speed caused the tail cone to shatter and frustratingly they had to return to base.

The following night Ernst and Kopsel were up again, as the former recalled: "The scenario was similar to the previous night – dive down, line up behind and open fire. This time we closed the gap and fired bursts of 20mm



Z-BOMB

harvest

rounds. They found their mark all over the propulsion unit and the bomb lost power, nosed over and went into the sea. This was the 422nd's first 'kill' of the war."

PERFECT KILL

Aircrew of the 422nd claimed more V-1s on the following two nights. At about 04:00 on the 17th, Captain Robert Elmore and his R/O, 2nd Lt Leonard Mapes, flying 42-5534 *Shoo-Shoo-Baby*, shot down a Doodlebug off Beachy Head. The next night the crew of 42-5543 *Tennessee Ridge Runner*, Lts Willie Anderson and Jim Mogan, were off the French coast.

Anderson vividly described his combat debut: "GCI picked up a 'blip' that was in our area and he gave us its speed and direction. At that time my radar operator pointed us in the right direction for an intercept. Minutes later, he was able to pick it up on his scope at a range of about eight miles and the chase was on!

"We closed on the target from behind and above, as

Lt Mogan put me in a perfect position. We had to get close enough to make a positive visual identification before firing. To reach a dead astern position it became necessary to dive down to reach a speed of about 400mph in order to set up a satisfactory firing angle.

"I was in a perfect firing position and let go with a burst that converged all over the V-1s right wing. A perfect shot because it did not hit the warhead. The target rolled over and went straight into the ground. It was a perfect kill." ➡

IN THE SECOND PART OF THIS SERIES, **ANDY THOMAS** PROFILES THE **BLACK WIDOW'S** ROLE IN COUNTERING THE **V-1 THREAT**

TARGET — LONDON



LAST TO FALL



The last V-1 to be shot down by the USAAF fell to 2nd Lt Melvyn Paisley in P-47D 44-20545 *Le Mort* of the 390th FS on November 30, 1944. The buzz-bomb was his first air combat success. On January 1, 1945 he shot down three German aircraft in a single mission.

BOTH M PAISLEY VIA J SCUTTS

Below

First combat success for the 422nd NFS was scored by 2nd Lt Herman Ernst in P-61 42-5547 'Borrowed Time'. H ERNST VIA W THOMPSON

FIREBALL

While acting as an observer on 42-5540 *Katy the Kid*, crewed by Captain Tadas Spelis and Flt Off Eleutherios Eleftherion, Lt Guba got a grandstand view of a near disaster. "I was surprised to witness how close we were before we started firing. The first burst didn't seem to do anything

but the second created a dangerous situation for us. One moment there was almost total darkness and the next we were lit up like the sun had exploded.

"We had absolutely no time to move right or left so we barrelled right through the centre of the fireball. It blinded everyone in the aircraft and at the time we were diving at a low altitude. We could smell gasoline and feel the intense heat as we went through the explosion."

Towards the end of the month the 422nd moved to Maupertus in France and was replaced at Scorton by the 425th NFS, led by Lt Col Gilly Lewis. During an orientation sortie by seven P-61s over the Channel, Major Hardin Ross in 42-5580 spotted a V-1. Closing in to about 1,200ft, he opened up with the 'Widow's formidable battery of four 20mm cannon and shot it down, expending 160 rounds.

On August 5, Lt Garth Peterson with 2nd Lt Howe fired on a 'Diver' off Hastings, seeing strikes all over before the pulse-jet stopped and it crashed into the sea. The pair got another the following night – the only Black Widow crew to bag two

buzz-bombs. Over the next few nights Captain Frank Sartanowicz and Lt James Thompson also claimed Doodlebugs before the 425th moved to Vannes, France.

ANTWERP BLITZ

As the Allied armies advanced through Belgium and into Holland, the large port of Antwerp became a vital logistics hub after it was liberated in early September 1944. The enemy also recognised its strategic value and the following month began its bombardment by V-1s and V-2 ballistic rockets on the personal instruction of Hitler.

The first Doodlebugs 'arrived' in mid-October and in six weeks almost 3,000 had been launched against Antwerp and Liege. A system of massed guns was the most effective defence and so there was no organised fighter screen as had been used over Kent. Nevertheless, Allied fighters did occasionally run across Divers and naturally 'had a go'.

By November the 422nd and 425th NFSs were based at Florennes. During a routine patrol near Duren on the night of the 26th, Lt Paul Smith and 2nd Lt Robert Tierney in P-61 42-5544 *Lady Glen*





Left
Lt Paul Smith in 422nd NFS P-61A 'Lady Gen' decorated with his 'score', including the last V-1 destroyed by a Black Widow. PAUL SMITH

Below left
Damage caused to the P-61 of Captain Tadas Spelis by an exploding flying-bomb. USAF

"With a prodding right roll of my aileron, my 'Jug' tipped the V-1's right wing into the sky. Within seconds, the V-1 lost its brains and tumbled downward"

encountered a V-1. They dived from 11,000ft and at 400mph-plus closed the distance and opened fire, the 20mm rounds hitting the engine pod. Keeping his distance Smith fired another burst causing the buzz-bomb to explode. He noted: "As the flaming debris fell into the clouds there was a red glow as if the pieces of metal were glowing red hot."

STUPID MOVE

On November 30, 1944 the 355th FG's 390th FS staged its first mission from Asch in Belgium and destroyed the last of more than 30 'Divers' dispatched by the USAAF. Separated from his section, 2nd Lt Mel Paisley broke out of cloud in his P-47D: "An object caught my eye at eight o'clock. It was low, maybe 2,000ft below me, steady on course and black as night. With a brisk 'phut, phut, phut', the 'Jerry' V-1 buzz-bomb sped on its course to England or maybe Antwerp.

"I shoved the throttle to the wall and went into a shallow dive, following close behind for 50 miles, plotting its course on my kneepad

map. It was on a line to Brussels. Surveying the area, I noticed there was mostly farmland ahead of the V-1. I switched on the water injection and moved up on the V-1, carefully placing my wing under its wingtip.

"The Doodlebug was much steadier than my 'Jug', probably owing to the absence of a nervous pilot flying it. With a prodding right roll of my aileron, my 'Jug' tipped the V-1's right wing into the sky. Within seconds, the V-1 lost

its brains and tumbled downward.

"Rolling back, I took a short blast at the black body as it fell, hoping to get a little camera coverage. What a stupid move that was. My plane lurched upwards as the V-1 burst into the open field below, barely escaping the explosion which sent hoards of mud spurting into the air." ●



For Valour

With four tours and 102 'ops', many people regard **Leonard Cheshire** as the RAF's greatest bomber pilot. **Graham Pitchfork** profiles an outstanding man

During his time at Merton College, Oxford, Chester-born Leonard Cheshire joined the famous University Air Squadron. Mobilised at the outbreak of war he trained as a bomber pilot, flying with the Whitley-equipped 102 Squadron. On the night of November 12/13, 1940 his

aircraft was hit by anti-aircraft fire over Cologne, igniting a flare in the bomb bay. A fierce fire was put out by the crew and Cheshire managed to bring the crippled bomber and its wounded crew back to base. He was awarded an immediate DSO, a very rare honour for a pilot officer.

On completion of his first tour, Cheshire immediately volunteered for a second and flew Halifaxes with 35 Squadron. Utterly fearless, he was awarded a DFC and a month later added a Bar to his DSO for "outstanding leadership".

During a tour as an instructor he managed to fly four more operations, which included the first 'Thousand Bomber Raids'. In August 1942 he volunteered for a third tour and took command of 76 Squadron, another Halifax unit.

Promoted to wing commander he was awarded a second Bar to his DSO. At the age of 25 he was promoted to group captain, the youngest in the RAF.

Target marker

Unhappy with his role as station commander at Marston Moor, Yorkshire, Cheshire volunteered to drop a rank in order to lead 617 Squadron. He pioneered a new method of target marking, which involved flying at very low level in the face of intense flak. Finding the Lancaster too heavy for this role, he used a Mosquito and later a Mustang. His

first flight in a Mustang was to mark a V-1 flying-bomb storage depot at Siracourt, France, which was destroyed by 617 dropping 12,000lb 'Tallboy' bombs.

On the night of April 24/25, 1944 he flew a Mosquito to Munich. In the face of withering ground fire, he circled at low level to mark the target accurately.

Having completed 102 operations and four tours, he was awarded the Victoria Cross. The citation concluded: "Cheshire displayed the courage and determination of an exceptional leader."

Cheshire's VC was one of only two awarded to the RAF for gallantry over a sustained period. (The other was fellow 617 Squadron CO Wg Cdr Guy Gibson.) Many have come to regard Leonard Cheshire as the RAF's greatest bomber pilot.

Cheshire was one of two British official observers when the second atomic bomb was dropped on Nagasaki, on August 9, 1945. It had a profound effect on the rest of his life.

Having left the RAF during 1946 on medical grounds, in 1948 he started the first Cheshire Foundation Home, which has become a major international charity caring for thousands of physically and mentally challenged people every year. In 1959 he married Sue Ryder, another immensely respected humanitarian.

Leonard Cheshire was admitted to the Order of Merit and was made a Peer in January 1991. He died on July 31, 1992.



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ABOVE

Formed in 1957 at Tulare in California, TBM Incorporated took its name from the type it started off with, the Grumman TBM Avenger. The Eastern Aircraft Division of General Motors at Trenton, New Jersey, built just over 5,000 TBMs, the largest single version being the TBM-3. Many of these were acquired by American and Canadian civilian aerial application outfits. Specialising in fire fighting, TBM Inc flew former TBM-3E 91110 as N6827C, call sign 'Tanker Echo 58', from the early 1960s. Today, the company thrives as a Lockheed C-130 Hercules specialist, particularly in the air drop role. Avenger N6827C passed through several owners in the USA until it was acquired by the UK-based Old Flying Machine Company and arrived at Duxford in May 1988. It was flown in US Navy colours until 1992 when it was exported to New Zealand and today is airworthy in Australia.

LEFT

'Tanker 63' was built in 1944 as TBM-3S 86020, an anti-submarine strike variant for the US Navy, transferring to the Royal Canadian Navy in 1950. It was demobbed in 1963 and joined the fire fighting organisation run by Don Goodman from Missoula, Montana, as N7157C, 'Tanker Ace 22'. By the mid-1970s the Avenger had moved to Fredericton, New Brunswick, Canada, to serve with well-known, long-term, operator Forest Protection. This machine crashed at Miramichi, New Brunswick, on April 23, 2010, killing its pilot.





ABOVE

Anti-submarine TBM-3S 53337 was passed from the US Navy to the Royal Canadian Navy, serving from 1952 to 1958. It was converted to fire-bomber status in Canada in 1958, becoming CF-IMI, call sign 'Tanker 601'. By 1969 it was at Abbotsford, British Columbia, with the famous concern Conair Aviation. By 1994 CF-IMI was south of the border at Seattle, Washington, as N337GA to begin a career as a 'warbird'. It is still regularly displayed, having migrated to Australia in 2006. Still headquartered at Abbotsford, Conair is a leading specialist operator and converter of aerial application aircraft with a large and varied fleet, including four-jet BAe 146s.



LEFT

Not all of the demobbed TBMs acquired by aerial applicators entered service; many became 'Christmas trees' being slowly stripped of spares; while others were stored, unconverted. During its time with the US Navy, TBM-3 53319 was converted to -3R status as an aircraft carrier's re-supply and personnel transport, capable of taking up to seven passengers and freight. It was transferred to the Royal Canadian Navy, but may not have entered service. By 1958 it was in civilian hands in Nevada, as N3966A, still in US Navy markings and in TBM-3R configuration. It was acquired by British pilot Tony Haig-Thomas and from 1989 to 2006 flew from North Weald in Essex, UK-registered as G-BTDP. It was exported to Switzerland in 2006, becoming HB-RDG.

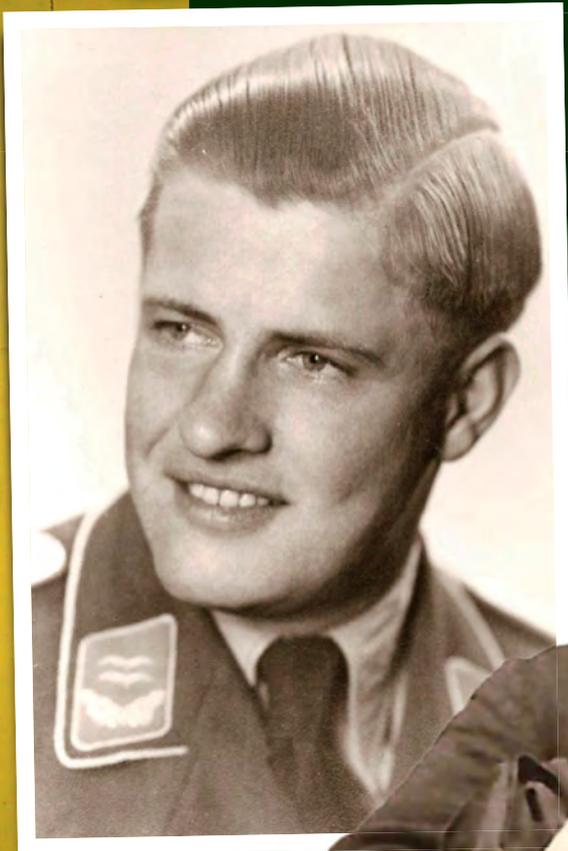


LEFT

Bob Johnson was a pioneer of the aerial application business. His Johnson Flying Service (JFS), based at Missoula, Montana, worked initially in both aspects of the trade: fire fighting and 'bug' bombing. The former involved dropping chemical retardant, known as 'slurry', on forest blazes. The latter was the spreading of pesticides over woodland, particularly trying to eradicate the spruce budworm. In operations against fires, JFS was the first to employ 'smoke jumpers' - radio-equipped parachutists who would drop into clearings to report on the direction and strength of the flames. Starting off as US Navy TBM-3E 85854, 'Tanker Delta 7' flew with JFS from the early 1960s until it closed down in 1974. 'Delta 7' eventually joined Forest Protection in Canada as C-GLEQ, but was written off in an accident on June 23, 1977.

INTO THE Cauldron

CHRIS GOSS DESCRIBES
BF 109 PILOT HANS OHLY'S
EXPERIENCES DURING THE
INVASION OF THE USSR



Sans Ohly's second combat sortie was almost his last. The 24-year-old Oberleutnant (Oblt) was flying Messerschmitt Bf 109Es with 1 Staffel of Jagdgeschwader 53 (1/JG 53) from Darmstadt, south of Frankfurt, Germany, under the command of his friend Oblt Hans-Karl Mayer. On December 30, 1939 Ohly took off at 13:47 hours for a patrol of the front line.

The Bf 109s were attacked by Curtiss H75s of the French Air Force's Group de Chasse II/5. In the encounter the Germans came off worse, Leutnant (Lt) Walter Rupp putting his damaged fighter down at

Wiesbaden-Erbenheim.

Ohly had possibly come up against Lt Robert Huvet and force-landed his fighter near St Wendel. His injuries meant he did not return to flying duties until May 7, 1940.

Three days later, the Battle of France broke out, and Ohly's first success came on the 14th when he shot down two RAF Bristol Blenheims and a Fairey Battle. By the end of the conflict, he had flown nearly 50 operations but had not increased his score.

His first 'kill' of the Battle of Britain came on August 25 when he claimed a Hawker Hurricane near Portland, Dorset. Shortly afterwards his Geschwader moved to the Pas de Calais and on September 2 he was given command of his Staffel, 1/JG 53, when Hans-Karl Mayer was promoted to head I Gruppe of JG 53 (I/JG 53).

On the afternoon of October 28, a fighter-bomber escort turned out to be Ohly's last mission of the Battle of Britain. His tally had reached four victories and on December 20 he and 1/JG 53 were withdrawn to Germany.

Converted to Bf 109Fs, 1/JG 53 returned to the Channel front at the start of April 1941. Ohly recorded just one combat, a dogfight with Supermarine Spitfires on the 26th. All was to change on June 4 when JG 53 moved east in preparation for the invasion of the Soviet Union, the Geschwader arriving at Krzewica in eastern Poland on the evening of the 15th.

Long first day

With seven kills to his credit, Oblt Wilfried Balfanz took command of I/JG 53. Ohly led 1/JG 53 while 2/

JG 53 was commanded by the experienced Oblt Ignatz Prestelle (also with seven victories) and 3/JG 53 by Oblt Werner Ursinius, who had yet to score.

Operation Barbarossa began early on June 22, 1941 for Ohly. Taking off at 03:40, his 1/JG 53 was tasked with escorting Junkers Ju 87 'Stukas' and he reported no contact with Soviet fighters. Landing 70 minutes later, Ohly's Bf 109F-2 was refuelled and he took off again at 06:30 on a fighter sweep. Again he had no sighting of enemy aircraft but managed to shoot up a train instead.

A member of Ohly's Staffel, Unteroffizier (Uffz) Ludwig Reibel, shot down a Polikarpov I-153 biplane fighter near Brest Litovsk. This was I/JG 53's first kill of the campaign and Reibel's second of the war, his tally starting with a Blenheim on May 14, 1940.

Landing at 07:43, Ohly was airborne by 09:10, again shepherding Stukas. Lt Walter Zellot of 1/JG 53 downed a Polikarpov I-16, his first victory of the war. It appears that a sortie was staged without Ohly as Lt Ernst-Albrecht Schulz shot down three Tupolev SB-2 twin-engined bombers in quick succession. Reibel despatched another two.

At 12:18 Ohly was off again, presumably on a scramble to intercept attacking Soviet aircraft as the flight only lasted 24 minutes. He was pleased to record in his logbook that he shot down one SB-2 and badly damaged a second, which was later confirmed as destroyed. In the same sortie, new pilot Feldwebel (Fw) Eckardt Wenzel also claimed an SB-2.

The busy day was not over. ➔

Far left
Formal portrait of Hans Ohly.

Left
Hans Ohly at Crecy, France, with the newly arrived Bf 109F-2, April 1941.



Hans Ohly's early flying

Right

Pilots of 3/JG 53 just before Walter Rupp (far right) was shot down on October 17, 1940. All but Rupp went into action in Barbarossa. Standing, left to right: Felix Sauer, Alexander Bley Müller, Walter Seiz, Alfred Baumer, Rupp. Sitting: Wolfgang Tonne and Karl Leonhard.

Born in 1915, Hans Ohly joined the German Navy in April 1934. Following basic training, he transferred to the Luftwaffe and began flying training in November 1936.

A year later, Lt Ohly joined I Gruppe of Jagdgeschwader 134 in Dortmund, flying Arado Ar 65 and Ar 68 biplanes. In mid-1938, the unit converted to Messerschmitt Bf 109Ds but Ohly was posted to I/JG 131 at Jesau in East Prussia before a brief stint with Zerstörergeschwader 142 back at Dortmund.

From March to December 1939 he served with Jagfliegerschule 2 at Schleissheim. Oblt Ohly then joined the Bf 109E-equipped I/JG 53 at Darmstadt, originally under the command of Hptm Werner Mölders.

"By the time Ohly landed at 17:30, he had flown five combat sorties on the first day of Barbarossa, totalling 5 hours 2 minutes. Without loss, I/JG 53 claimed 18 Soviet aircraft destroyed"



White 7, that evening, reporting that the engine was working as it should, and was back in the fray at 08:35 on the 24th.

That day a formation of SB-3s was encountered east of Pruzana and, while Gruppen Kommandeur Balfanz was reported missing, six Soviet bombers were claimed as shot down. Leadership of I/JG 53 passed temporarily to Ignatz Prestelle who had previously run 2 Staffel.

On the 25th the Gruppe moved eastwards to Pruzana and Ohly flew an uneventful mission that evening from the new base. The next day, Schulz and Uffz Alfred Baumer each claimed an I-15 in the vicinity of Sluzk. Ohly added two of the biplanes to his tally – one in the air, the other on the ground.

Relocation eastwards continued, I/JG 53 settling at Baranowice on the 29th only to vacate within 24 hours to Hostynne, during which move I/JG 53 suffered its first casualty of Barbarossa when Baumer was injured in a collision with another Bf 109F-2.

Great escaper

In late June 1941 a new Gruppen Kommandeur arrived. Hauptmann Franz von Werra had been shot down over southern England on September 5, 1940. After a number of escapes (detailed in the book and 1957 film *The One That Got Away*), he finally made it to the neutral USA from Canada on January 2, 1941 and arrived back in Germany in mid-April 1941 where he was awarded the Ritterkreuz.

In his diary Ohly makes no mention of the arrival of the new 'boss'. On July 1 he was more

irritated with his Bf 109F-2, writing: "The engine has to be changed!" On the 2nd, Ernst-Albrecht Schulz was wounded while attacking an SB-3 and out of action until early 1942.

In the following weeks Ohly flew up to four sorties a day in a mixture of duties: escort, fighter sweeps and even low-level attacks on Soviet tanks. On the 6th, by which time I/JG 53 was operating from Dubno, the unit claimed 11 victories – including one each to Lts Walter Zellot and Heinz Ryba of 1 Staffel. The following day von Werra scored his sixth kill when he shot down a DB-3 near Ploskirow.

While attacking two aircraft on July 9, Ohly's guns jammed and the next day (by which time I/JG 53 was operating from Miropol) he had to return early when his Rottenflieger (wingman), Lt Norbert Schäfer, suffered engine problems.

During three missions on the 10th, Zellot claimed two SB-3s and Ryba one. Heinz Ryba failed to return from a mid-afternoon 'op' but was avenged that evening when Zellot and Padior badly damaged two I-16s while escorting Heinkel He 111s.

New unit

The eastward migration of I/JG 53 continued through July 1941, first to Shitomir and then Bela-Zerkow. Losses were light but, on shooting down his first enemy, Lt Norbert Schäfer was forced to crash-land northeast of Zwishel when his fighter's cooling system was hit. He was taken prisoner, returning to Germany over eight years later.

Around this time the only

At 16:30 Ohly led another Stuka escort, which recorded kills for Lt Udo Padior (an Ilyushin DB-3 twin-engined bomber, his first shoot-down of the war) and another for Wenzel near Biala-Podlaska.

By the time Ohly landed at 17:30, he had flown five combat sorties on the first day of Barbarossa, totalling 5 hours 2 minutes. Without loss, I/JG 53 claimed 18 Soviet aircraft destroyed.

Ever eastwards

The following day, June 23, was much quieter for I/JG 53. Gruppen Kommandeur Oblt Wilfried Balfanz claimed the only kill of the day, a Petlyakov Pe-2. Ohly was forced to turn back with engine trouble on two missions and, having changed aircraft, then had to return due to a faulty radio.

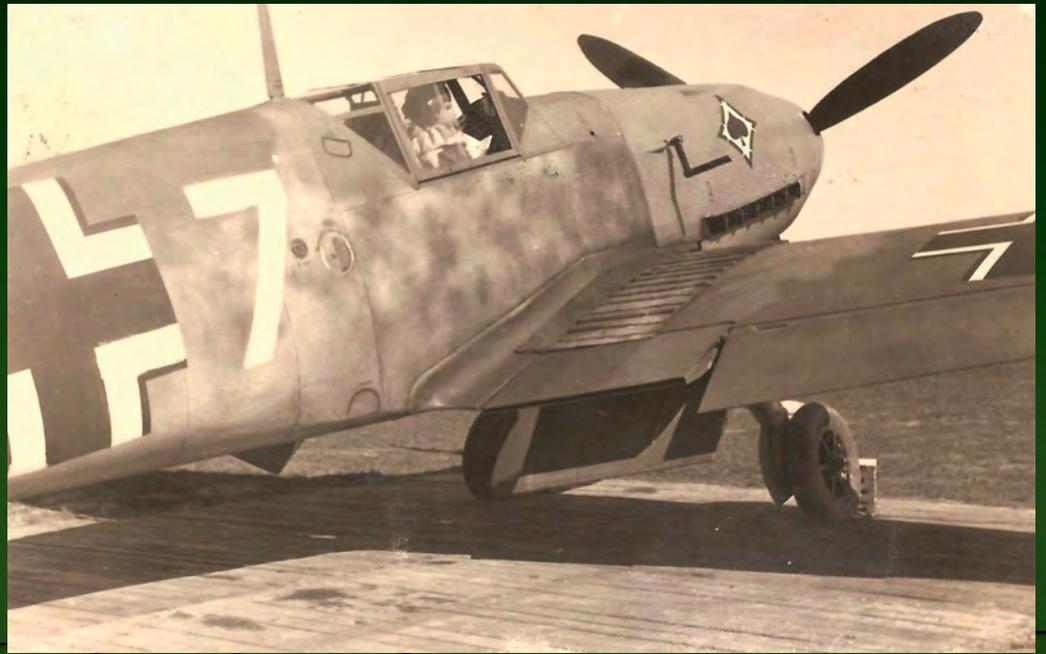
He tested his regular mount,

Above
The fox terrier of Lt Günther Hess, 2/JG 53, on the nose of a Bf 109F-2.



successful 1 Staffel pilots were Zellot, who got his 12th kill on August 5; Padior and Wenzel, who each shot down their third enemy on July 29; and newcomer Oblt Hans-Joachim Heinecke, who claimed his 15th victory (his third with 1/JG 53) on August 2.

Ohly's beloved *White 7* was damaged in combat with Soviet fighters on July 23. But at 17:05 on the 29th he managed to break a barren period with his 11th kill, a DB-3 near Smola. The winning streak continued with an I-16 on August 2 near Nowo Mirgorod.



Above
Ohly in his Bf 109F-2 'White 7', which he took to Russia in June 1941.

Co-based at Bela-Zerkow was 7/JG 3, commanded by Oblt Kurt Sochatzky, who was shot down and captured on August 4. Ohly moved across to take over from him, flying his first mission with his new unit two days later in this temporary appointment, Hans-Joachim Heinecke assuming command after four sorties.

Meanwhile 1/JG 53 started moving back to Germany for rest and recuperation, handing over its aircraft to JG 3. Ohly remained with 7/JG 3 until August 28, 1942, during which time he shot down

another four aircraft: an SB-3 on August 11, an unconfirmed I-16 on September 19, a Pe-2 on October 4 and another on May 23, 1942.

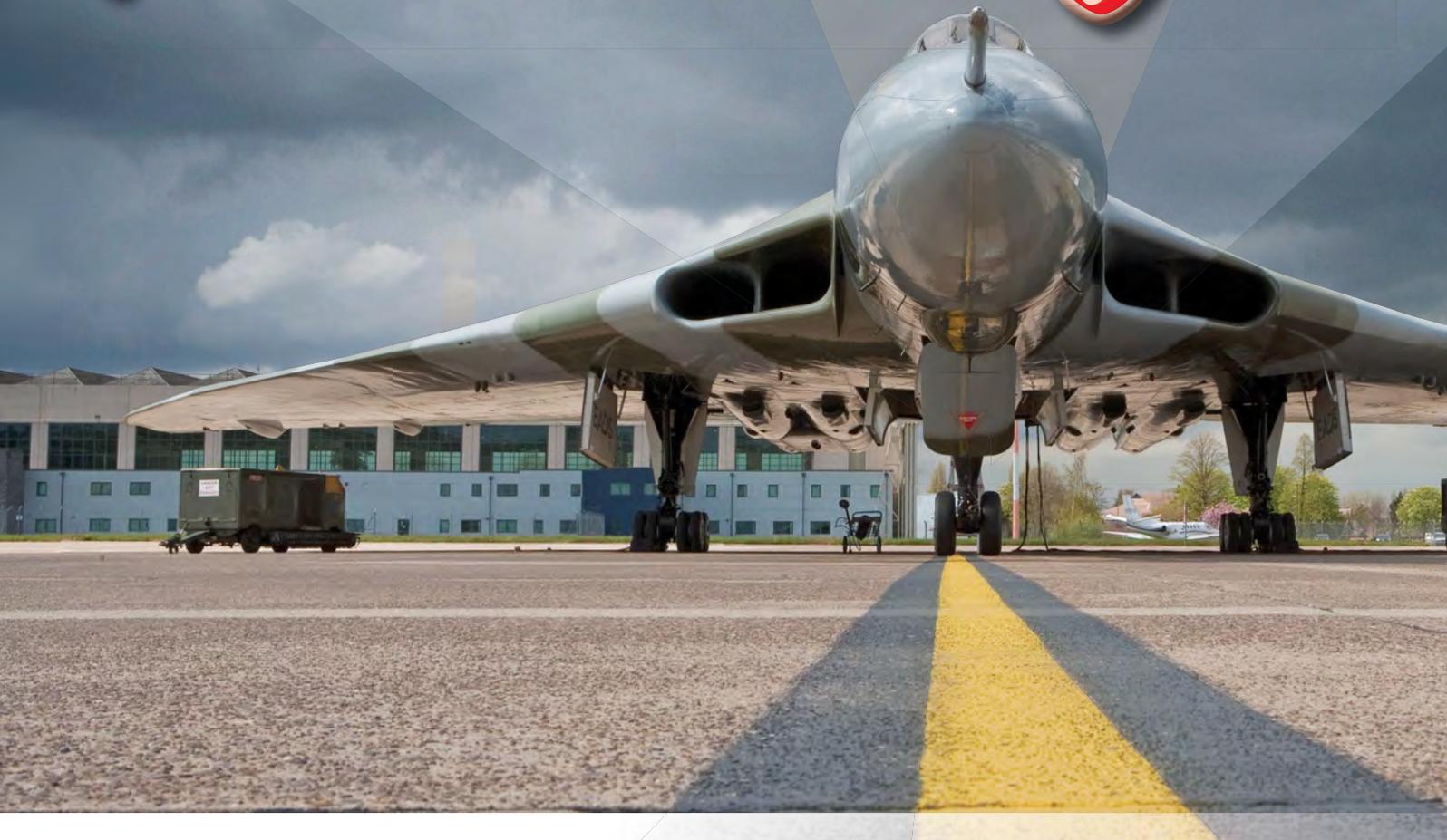
In September he was posted as an instructor and promoted to Major just before the war's end.

Hans Ohly died in Frankfurt in 1998, aged 83. Having flown operationally from December 1939 until August 1942, he had been shot down only once. Unlike many other Luftwaffe fighter pilots on the Russian front, he did not amass a great number of kills, but had the luck to survive.

Below
Pilots of JG 53 with one of the unit's Bf 109s.



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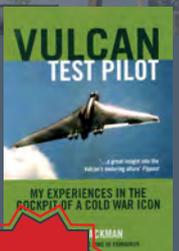


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'Barra'

"Built like the proverbial outhouse!" That is the impression most people form having seen for the first time the crude-looking construction of the hitherto extinct Fairey Barracuda currently being lovingly brought back to life at the Fleet Air Arm Museum at Yeovilton, Somerset.

The Barracuda was the successful contender for Specification S24/37 drawn up in October 1937, calling for

a torpedo-bomber/reconnaissance monoplane. The single-engined three-seater was intended to replace Fairey's own Albacore biplane (itself still not off the drawing board) and capable of shore, carrier and even floatplane operations. The prototype made its first flight from the Great West Aerodrome, Harmondsworth - long since engulfed in London's Heathrow Airport - on December 7, 1940.

With its stinky undercarriage, shoulder wing, high set tailplane and special flap arrangements to help with dive-bombing the Barracuda was never going to win any beauty pageants. When the wings were folded, some onlookers unkindly commented that it seemed like it had *already* been in an accident.

Initially built at the Fairey Heaton Chapel, Manchester,

factory, shadow production lines were set up by Blackburn at Brough, near Hull, Boulton Paul at Wolverhampton in the Midlands and Westland at Yeovil, Somerset. More than 2,500 were built, culminating in the Rolls-Royce Griffon powered Mk.V. Some of these, and earlier Mk.IIIs, were still in service in the early 1950s, training observers and radar operators.



Top right
Barracuda II DP872 emerging from the Northern Ireland bog, May 1971. VIA AUTHOR

Above
Barracudas of 831 Squadron en route to attack the 'Tirpitz' in its Norwegian hideaway on April 3, 1944. VIA AUTHOR



At Yeovilton a long lost dive-bomber is being rescued from extinction.

Lee Howard reports

Poor reputation

Even though it had a fairly long service life and was operated by around 60 squadrons and other units, history books have never been kind to the 'Barra'. So, why is an aeroplane with such an apparently poor reputation worthy of resurrection?

Dave Morris, the museum's curator of aircraft, in overall charge of the project, explained: "I don't

"...the Barracuda was never going to win any beauty pageants. When the wings were folded, some onlookers unkindly commented that it seemed like it had already been in an accident"





think that the Barracuda really deserves the bad press it has been given. It was quite an advanced design as a drawing-board concept in 1939 and was in service with the Fleet Air Arm by December 1942.

"When you consider that the Spitfire effectively has only four years' lead and had the benefit of peacetime development, free of the immediate pressures of wartime operations, the Barracuda by comparison was being developed during the heat of the battle. Had it been afforded a longer development period to iron out any issues, I think it probably would have become a much more loved aeroplane."

Unlike Fairey stablemates the Fulmar and Firefly, both intended to fulfil specific niche roles, the Barracuda was pressed into several tasks: dive-bomber, torpedo-bomber, trainer, even lifeboat dropper. The type hit the headlines on April 3, 1944 when a force of 42 attacked the German warship *Tirpitz* hiding in a Norwegian fjord: 15 direct hits were scored.

Barracudas became part of the East Indies Fleet but their performance in tropical conditions proved to be poor and it was largely replaced by the Grumman Avenger. As a result, other than operations against Japanese suicide boats in Hong Kong harbour, the type saw little use in the theatre.

At the end of the war a large number of Barracudas were disposed of, often by pushing them over the side of carriers off Australia where, presumably, they remain to this day in a watery grave.

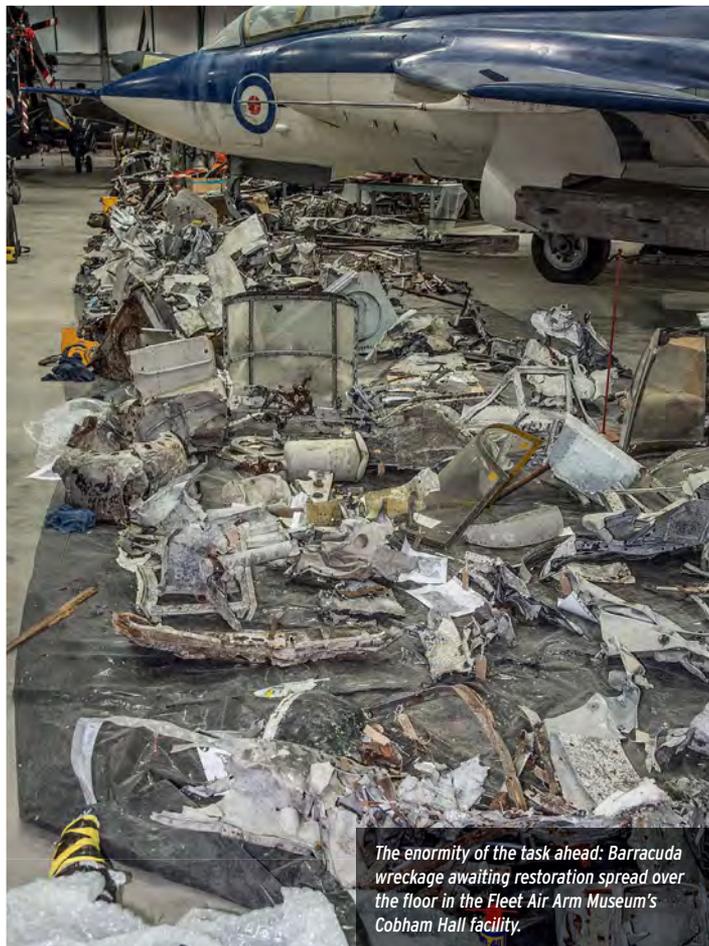
Filling a gap

In 1970, the curator of the Fleet Air Arm Museum, Lt Cdr Les 'Harpy' Cox, followed up reports of a Barracuda wreck in Northern Ireland. This could fill a notable gap in the museum's inventory. A preliminary recce was carried out by 33 Field Squadron, Royal Engineers, which located Mk.II DP872 about seven feet beneath thick vegetation in a bog.

Built by Boulton Paul, DP872 was powered by a 1,640hp (1,223kW) Merlin 32 and was delivered to 769 Squadron at Easthaven, Scotland, in November 1943. On August 29, 1944 it failed to recover from a low-level spin after take-off from Maydown, Northern Ireland, and crashed at Blackhead Moss, Londonderry.

Sub Lts D H Oxby, F R Dobbie and Leading Airman Mew were all killed. Attempts to recover the airframe and the bodies were abandoned due to the difficult nature of the crash site.

Nearly three decades after the crash, the recovery operation began in May 1971. The main section was pulled from the bog on May 14, followed by the cockpit and engine three days later. On May 19 a funeral, with full military honours, was held at the

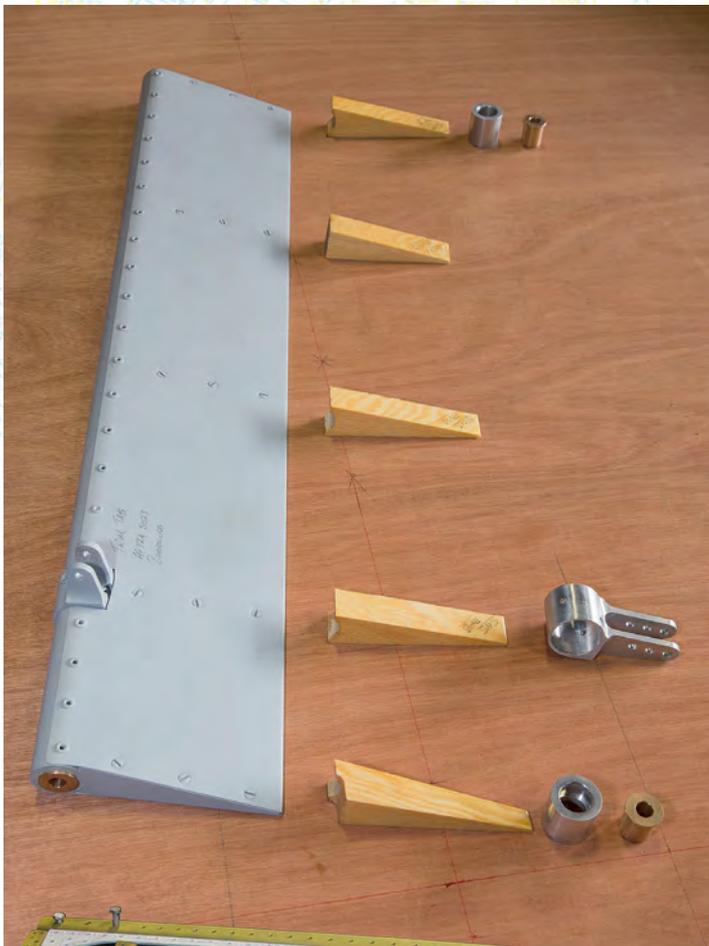


The enormity of the task ahead: Barracuda wreckage awaiting restoration spread over the floor in the Fleet Air Arm Museum's Cobham Hall facility.

"Arguably there may have been more interesting examples that we could have painted her up as, but that would be going against our fundamental goal of accuracy"



The mangled centre section, including canopy glazing. VIA AUTHOR



nearby Eglinton church for the crew of DP872.

Initially stored at Sydenham, Belfast, the remains of the Barracuda were eventually transported to Yeovilton. In the 1980s, the cockpit section was sent to Viv Bellamy's Hampshire workshop; Viv having rebuilt the museum's Albacore. The remainder was stored at Wroughton, Wiltshire, before returning to Yeovilton in December 1999.

Anomalies

Will Gibbs, one of the Yeovilton-based conservation team members remarked: "It is beginning to dawn on us just how big the Barracuda

actually was." With a wingspan of 50ft (reducing to 18ft when folded), length of 37ft and height of 14ft 9in, the dive-bomber is surprisingly large.

"She will only just fit into our restoration hangar. She might be comparable in size to a Firefly, but having a torpedo slung underneath and stinky undercarriage to suit means that her canopy height will be getting on for that of a [1950s] Gannet."

Since the project began in earnest at Yeovilton, Will has almost single-handedly sorted the countless numbers of bent and mangled components currently strewn across the floor in the Cobham Hall storage facility.

Will has also been cataloguing thousands of microfilmed Fairey

Core of the Barracuda - Frame 11



An illustration from 'Aircraft Production' magazine for July 1945 showing a Barracuda Frame 11 in a production jig. VIA AUTHOR



Before disassembly, Frame 11 was used by Will Gibbs to produce a jig ready for its reconstruction.

Comprising the front wing upper and lower spars, Frame 11 is the core of the Barracuda. The forward and aft fuselage sections and the wings are 'hung' from it. The frame from DP872 was dismantled prior to the treatment of corrosion and repair of the damage to the lower section caused by the impact of the crash. Some nine tons of pressure had to be exerted on the spar to straighten it back out.

Above left
An elevator trim tab built to original drawings from scratch with internal wooden ribs, brackets and bushes for the corresponding starboard item alongside.

Left
Starboard undercarriage torsion box, fully restored to original specifications, prior to attachment of the lower skin.

wherever possible as the baseline and the finished aircraft will represent this particular machine as she was on the day she crashed.

"Arguably there may have been more interesting examples that we could have painted her up as, but that would be going against our fundamental goal of accuracy."

No short cuts

Although 95% of the original structure and attachments have been reused in the restoration, inevitably some items have had to be remade, repaired or replaced. Sourcing sufficient numbers of nuts, bolts and washers of the correct specification is proving to be a particular headache. British Aircraft General Standards (AGS) items as well as tubular rivets are in short supply.

Dave explained: "While it would certainly be easier and infinitely cheaper to leave as much of the incredibly complicated and undamaged structure as

drawings held in the archive department. He is also carrying out the stripping, repairing, re-manufacturing and reassembling of parts that have been restored so far.

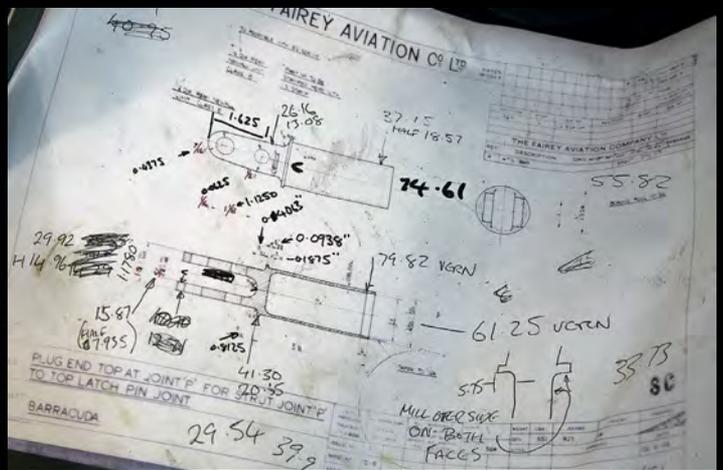
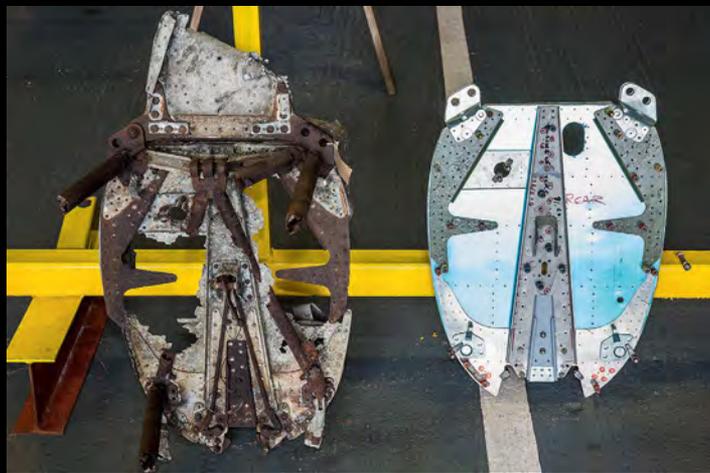
The drawings are unfortunately not all for the Mk.II and range from the prototype right through to the Griffon-powered Mk.V. Anomalies have been found between the blueprints and the actual components, suggesting that different companies were effecting changes locally as production went along and these weren't necessarily fed back to the original drawings.

This requires a lot of interpretation and reverse engineering. Dave said: "We don't believe that we are that far away from the variances that were obviously commonplace at the time. We always use DP872's parts



Above
Tube fork end fittings before and after corrosion treatment. AUTHOR

Below
A rear fuselage frame with the restored item on the right using all original brackets, doublers and stiffeners attached to a new skin. ALL AUTHOR UNLESS NOTED



Above
Where original items are beyond repair or clearly lack the required structural integrity to support the aircraft's weight, new versions are fabricated using original Fairey drawings.

Below
Members of The Society of Friends of the Fleet Air Arm Museum with some of the restored components for the starboard undercarriage torsion box for which they generously donated £1,200 to aid its completion. WILL GIBBS



is, simply paint over it and use commercially available fasteners in lieu of original specification materials, the potential for hidden corrosion to eventually compromise the good work being done means that a decision was taken early on that there would be no short cuts."

Such is the almost obsessive attention to detail and quality of craftsmanship being put into the work undertaken by the museum so far that all previous conservation efforts will ultimately need to be completely revisited. This isn't just to make sure that there is a common standard across all work.

Dave said: "I think that we have proved through our Vought Corsair and Grumman Martlet restorations in recent years that the retention of as much original material is of great importance to us.

"Inevitably some components have been found to be so badly corroded or damaged that we have had no choice but to remanufacture

those parts. But this is mainly to ensure that the finished aircraft is structurally sound enough to carry its own weight."

Just Giving

Bringing back a Barracuda from extinction and doing it to such exacting standards is never going to be a cheap exercise. How much will this all cost?

Dave said: "Funding for the Barracuda has been switched on and off over the years as other projects rightfully took priority. To give it some independence, and thereby a more stable financial footing, we set up a Just Giving page for donations which will go directly to the rebuild.

"The initial target was set at £60,000 to enable us to restore the basic fuselage. The wings themselves are effectively a project in their own right. We have had some tremendously generous donations thus far, but we are still

a long way from reaching that first target.

"How much for a completed aircraft? That's difficult to predict accurately, but probably in the region of £150,000 to £250,000."

The Society of Friends of the Fleet Air Arm Museum has recently donated £1,200 towards the completion of the two main undercarriage units, including oleos and torsion boxes. Incredibly, the oleos were found to still have air pressure and hydraulic fluid. The latter has been drained out into containers with the aim being to refill the oleos with this original 1944 fluid in due course as an added level of authenticity.

Big question

The big question on everyone's lips is: how long before we see a fully-restored Barracuda? Dave admitted: "That's a very difficult curve to plot on the graph. We have 103 other aircraft in the

collection that all have to be looked after and prepared for the themed exhibitions that the museum puts on every year.

"The Corsair is complete, but finalising the Martlet is still to be achieved. But we're absolutely determined to do this. Progress might look slow at the moment, but it is putting down the foundations upon which we will hopefully be able to quickly build.

"Frame 11 [the centre section frame] is the core of the aeroplane. Once completed, we can start to build forward and aft and bring on board other selected, skilled volunteers which will speed up the process. Put it this way, we haven't ordered the paint yet."

To discover more about this tremendous project and to donate, take a look at the team's Facebook page at [Fairey Barracuda Restoration](https://www.facebook.com/FaireyBarracudaRestoration) and at www.fleetairarm.com

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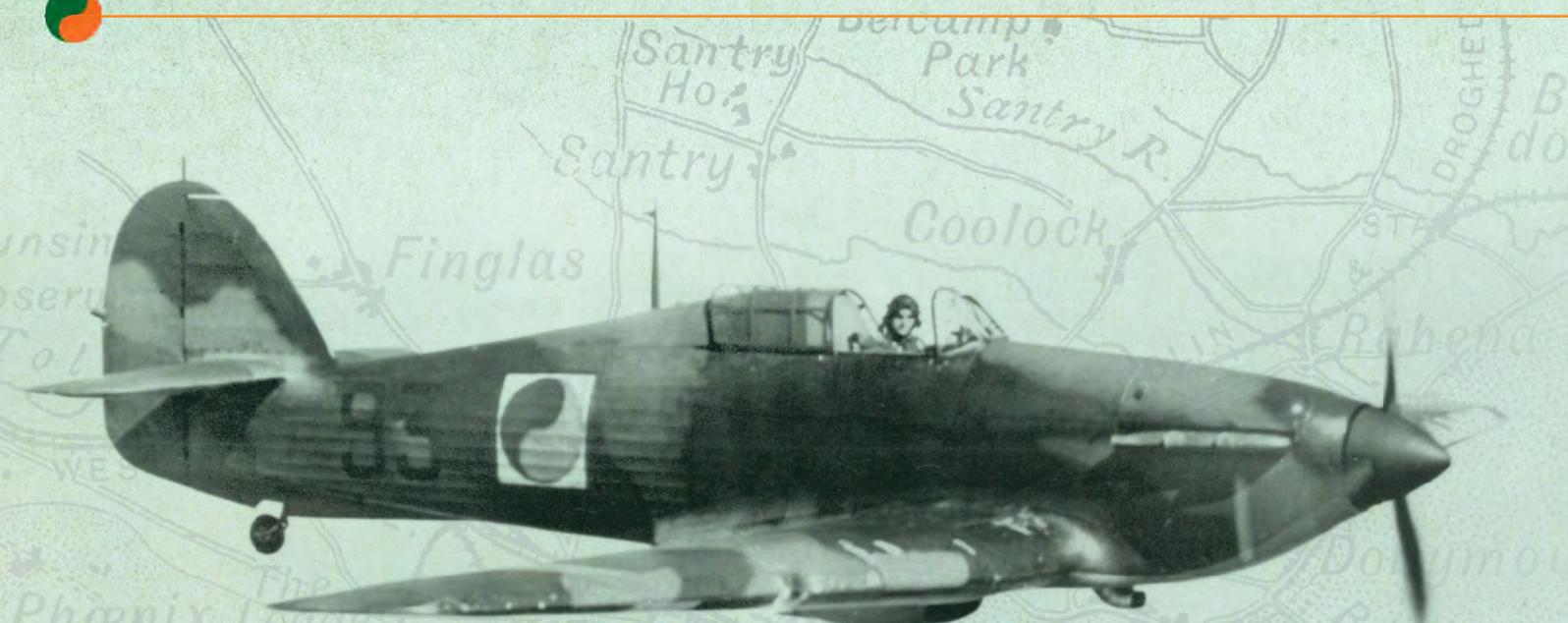
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SMALL BUT FIERCE

INVASION OF THE REPUBLIC OF IRELAND WAS A REAL POSSIBILITY DURING WORLD WAR TWO. **PETER LONDON** DESCRIBES IRELAND'S AIR CORPS DURING 'THE EMERGENCY'

Above
Hurricane I 93 was previously P5178 of 79 Squadron RAF, which force-landed on September 29, 1940 in County Wexford.

There was a gap in the clouds and Fg Off David Banks dropped the flying-boat through it. During a sortie from Pembroke Dock in Wales to Stranraer in Scotland, Saunders-Roe Lerwick L7252 had encountered bad weather and a position check was advisable.

The Lerwick emerged over Dun Laoghaire, the port of Dublin, and

alighted. Banks presented himself to the harbourmaster and he was allowed to buy provisions at a local shop and then was sent on his way. Similar treatment was given to the crew of the first production Short Sunderland, L2158, which had also strayed because of the conditions.

If the harbourmaster's treatment seemed curt the British airmen were lucky not to be arrested and

interned. It was the afternoon of September 3, 1939 and Britain and Germany had been at war since the morning. As Prime Minister Neville Chamberlain addressed Britain, the Republic of Ireland confirmed its neutrality.

Despite the non-aligned status, an attack was always possible, but Ireland's military was ill-prepared to protect the country. In particular,



the Irish Air Corps (IAC) lacked equipment, its funding having been parsimonious with procurements delayed or trimmed. The Corps' commanding officer was Col Patrick Anthony Mulcahy, a former artillery staff officer who knew little of aviation.

Ireland referred to the war as 'The Emergency'. In September 1939 the IAC constituted just three squadrons, all based at Baldonnel, southwest of Dublin. Some 30 pilots were available, half the notional peacetime number required, while serious shortages also existed across the ground trades.

FRONTLINE FORCE

Formed in April 1937, the IAC's Reconnaissance and Medium Bomber Squadron flew nine Avro Anson Is; four delivered new and five ex-RAF. The Anson had been selected after Ireland's Department of Defence had approached British



Above
Aircrew of Fighter Squadron pose for the camera in front of a Gladiator.

Left
Three Ansons in the camouflage scheme adopted for 'The Emergency'. The fuselage orange-and-green Celtic boss was set within a white square and there were bold tricolour orange, white and green stripes on the wings.

Bottom left
Camouflaged Gladiators at rest at Baldonnel. In the foreground is 25. Below its cockpit is a cartoon figure (possibly 'Sneezy' of 'Seven Dwarfs' fame) playing the concertina.

Gaelic its motto was 'Small But Fierce'.

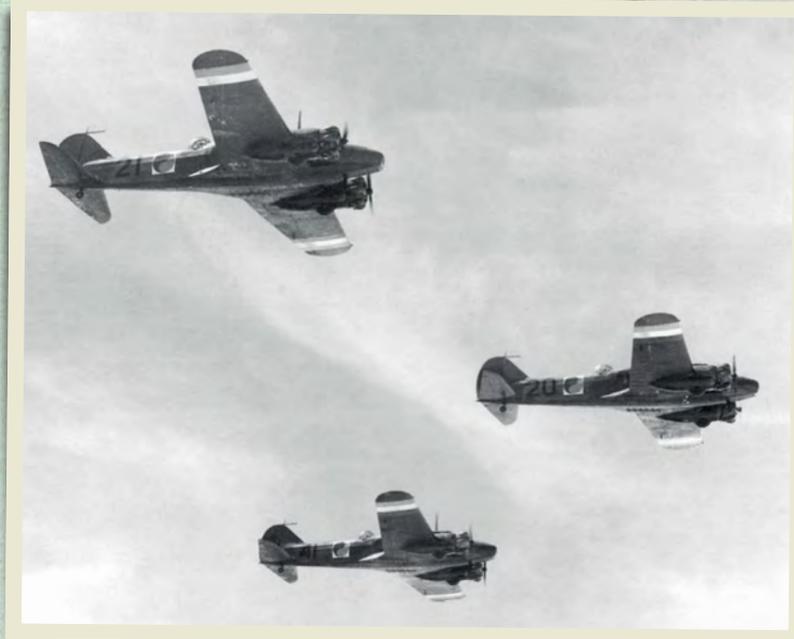
The Gladiators entered service in March 1938. Throughout this period, IAC aircraft had simple two- or three-digit serials, for example the Gladiators were 23, 24, 25 and 26.

In June 1938 Gladiator 26 nosed over on Baldonnel's grass and repairs took months. A second accident in October 20 put 23 out of action permanently; pilot Lt Higgins escaped with minor injuries. By autumn 1939 the three remaining examples were serviceable.

The Lysanders had been allocated to Fighter Squadron in July 1939; the last IAC aircraft received before the onset of The Emergency. They were used mainly for army co-operation duties and two were later converted to target-tugs by Short and Harland, across the border in Belfast.

SHANNON PATROL

Immediately prior to the outbreak of war three Ansons and two Walruses relocated from Baldonnel to Ireland's southwest coast. To create the detachment, the two donor squadrons pooled some of their limited resources. With a handful of pilots and ground personnel, a base was established at Rineanna, an isolated spot on the Shannon estuary.



and German manufacturers seeking a twin-engined, general reconnaissance type; Germany had declined to quote.

The first two Ansons arrived on March 20, 1937 and the other seven were delivered on February 2, 1939. Seven additional examples were ordered and by September 1939 were ready for dispatch, but were retained by Britain.

The Ansons were the first monoplanes and the first aircraft with retractable undercarriage acquired by the Corps.

The Coastal Patrol Squadron, established in May 1939, operated three Supermarine Walrus Is

and also acted as a training unit. All three were delivered direct from Supermarine at Woolston, Southampton, on March 3, 1939.

During the ferry flight, one of the amphibians later given the serial number 18 force-landed with engine trouble off Ballytrent. Rescued by local boats, its upper wing damaged, the Walrus completed the journey to Baldonnel by road.

Formed in March 1939, 1 Fighter Squadron flew four Gloster Gladiator Is and six Westland Lysander IIs. There being no similar units, it was often referred to just as Fighter Squadron. Translated from



Above
An instructor imparts knowledge to attentive pupils, using an IAC Lysander to demonstrate his craft.

Above right
Hector 88 suffered an accident and was withdrawn from use in September 1942, after only nine months' service.

Below right
Air Corps Miles Master II 98 - still wearing its RAF serial W9028 - with the five others at Baldonnel soon after delivery in February 1943.

Rineanna was situated near the Foynes civil flying-boat station developed during the late 1930s and later provided the basis for today's Shannon International Airport. The base received its first movement on May 18, 1939 when Anson 43 visited. Facilities were primitive; there were no hangars, no direction-finding station and no wireless. For major maintenance or repairs, aircraft had to return to Baldonnel.

Patrols began on September 1. At first two each day, typically of three hours' duration, watched over a vast number of inlets, stretching from Donegal to the north around to Wexford harbour in the southeast. It was feared the coastline could provide hideaways for German vessels engaged in spying or attacks against shipping. The possibility of an arriving invasion force was also considered.

As well as looking out for suspicious or damaged vessels, Rineanna's flyers searched for survivors of sinkings, investigated straying foreign aircraft and reported details of incoming weather. On the morning of September 4 an Anson left Rineanna to help spot survivors from the

British passenger liner *Athenia*, sunk off Donegal the previous evening by German submarine U-30.

UNEQUAL STRUGGLE

Less than a week into The Emergency, on September 8, Anson 45 suffered engine failure and was smashed beyond repair in a forced landing near Dingle. On October 10, Anson 44 came down in heavy rain at Nenagh. It was moved to Baldonnel but didn't fly again until 1945.

On December 19 both engines packed in on 43 and it ditched in Galway Bay off Barna. The crew were rescued but their sodden aircraft was later struck off charge.

Always unequal to covering so great an area, with fewer aircraft Rineanna's patrols declined. To an extent maritime observation became possible from a network of lookout posts established by the newly formed Coast Watching Service and at some Garda (police) stations.

Spares became another problem; by the spring of 1940, of the six remaining Ansons three were unserviceable with engine defects. Pleas to Britain for support fell on deaf

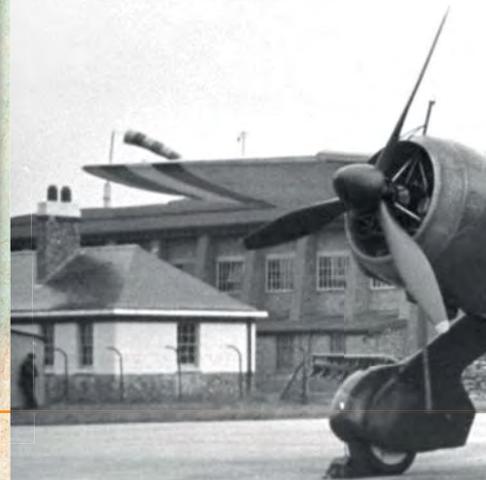
ears, a paradoxical situation if, as has been speculated, the flights' purpose was partly to provide the British with information. As the Air Corps' flying hours decreased so too did the morale at lonely Rineanna.

By mid-1940 patrols had been suspended and the Ansons returned to Baldonnel. The Walruses stayed on, but still only two were operational. Eventually 18 was repaired by 1941, fitted with the wings of 19. The latter had crashed on September 18, 1940 and 20 was written off on September 3, 1942. The first example soldiered on, but the lack of spare watertight floats prevented seaborne operations.

DIVERSE COLLECTION

With heightened fear of invasion in the summer of 1940 Dublin's airspace was declared a prohibited zone and warnings issued that unauthorised aircraft entering the area would be fired on. Ireland's Air Defence Command was based at Dublin Castle, with local air defence run by 1 Anti-Aircraft Brigade. A small number of anti-aircraft guns and searchlights were assembled around the capital, while Fighter Squadron prepared as best it could.

The aerial force was woefully weak. True, Britain supplied a few more





Above
Walrus 20 at rest.

Below left
Lysander 61, the first delivered to the IAC, at Baldonnel.

aeroplanes but not modern fighting types, and at that time there was deep distrust in Ireland of its formidable neighbour.

Six Hawker Hinds, three with dual control, and five Miles Magisters arrived in June 1940, the latter bringing the IAC total to 15. Hind 70 had a very short career, crashing at Laytown on July 27 killing both crewmen.

Over the summer, Ireland's observer network spotted hundreds of foreign military aircraft, particularly along the eastern coast. By then Fighter Squadron's Gladiators and Lysanders had been supplemented by two Avro 636 biplane trainers (four had been delivered in October 1935), a de Havilland Dragon, two Hinds and a Magister. The Dragon, accepted in March 1937, had been converted as a target-tug and was also fitted with small underwing bomb racks.

This diverse collection represented no operational improvement. Six types in a single unit, some elderly, worsened an already challenging maintenance situation.

GROWING CO-OPERATION

It was impossible to tackle the numbers of foreign aerial sightings reported, or organise standing patrols. With so few defenders, news of single

intruders was routinely disregarded. In conflict with the warnings put out regarding unauthorised Dublin overflights, for fear of breaching neutrality Fighter Squadron was ordered not to fire on alien types.

On April 13, 1940 the IAC investigated a large group of aircraft off the east coast. These turned out to be a convoy escort, patrolling outside territorial waters.

Two Gladiators were sent to tackle a Junkers Ju 88 flying over Dublin on December 29. Not only were the biplanes unable to catch up with the German, they succeeded in hampering Irish anti-aircraft fire.

Ireland's military had drawn up plans in case of attack either by Britain from Northern Ireland, to occupy the south for its own security, or by Germany along the southeast coast. (Britain invaded Iceland in May 1940 to prevent Germany gaining a mid-Atlantic foothold - ED.)

Should the need to evacuate Baldonnel arise, over the summer of 1940 dispersed fields, mainly in the east and southwest, were identified to act as temporary airstrips for the IAC. Difficulties with maintenance, repairs and fuel supply would have made such operations short-lived.

Fear of a British attack diminished somewhat after confidential talks held in early 1941 between the two

countries' military staffs. As discreet contact grew between British and Irish agencies, so did co-operation.

On the night of May 30/31, 1941 tragedy struck. The Luftwaffe accidentally bombed Dublin's North Strand district, the most serious of several such incidents during The Emergency. Anti-aircraft fire opened up, but the bombs killed at least 28 people, injured 90 and damaged or destroyed some 300 houses.

To help counter possible German attacks the construction of new airfields on Irish soil for RAF use was considered. Rathduff was selected and building work began in the autumn of 1941 but the base was never occupied by the British.

Offensive actions by the IAC were confined to the destruction of wayward barrage balloons. As early as October 4, 1939, Lysander 64 shot down a balloon near Foynes, while on June 20, 1940 the same aircraft dispatched another over the Irish Sea off Waterford. The following May a third 'blimp' was brought down near Carlow.

'WINDFALLS'

Inevitably, aircraft from the warring nations crashed in Ireland due to adverse weather, navigational error, low fuel or combat damage. Recovery of crashed types became an Air Corps' responsibility. If they were too damaged to warrant recovery, useful parts and weapons were salvaged. Several RAF aircraft were repaired and pressed into IAC service.

Hawker Hurricane I P5178 of 79 Squadron landed on September 29, 1940 at Ballyvadden. On December 21, Miles Master I N8009 of 307 Squadron crash-landed at Dungooley following navigational error. Short of fuel, 233 Squadron's Lockheed Hudson I P5123 arrived on January 24, 1941 at Skreen, while Fairey Battle T.T.I V1222 came down





Below
Line-up of Hurricanes at Baldonnell. Second from the front, 105 wears Fighter Squadron's badge, the head of a black panther. ALL VIA AUTHOR

near Waterford on April 24.

These aircraft were purchased from Britain and, except for the Master, were made airworthy. The Hudson joined the Reconnaissance and Medium Bombing Squadron. The Battle served as a target-tug until May 1946. The Hurricane joined Fighter Squadron, flying until August 1946.

On June 10, 1941 Hurricane IIa Z2832 of 32 Squadron ran out of fuel, landing at Whitestown. Hurricane IIb Z5070 came down at Athboy on August 21. Following talks with the British these were put to work with the Advanced Training Section.

Occasional windfall types didn't relieve the paucity of equipment. Col Mulcahy urgently sought new aircraft from Britain and developed an incognito friendship with the air attaché to Dublin, Wg Cdr R W G Lywood. Britain's resources were extremely hard-pressed and no doubt any transfer of aircraft was delayed while diplomatic talks took place regarding the extent of Irish support despite its neutrality.

DEFECTORS

During The Emergency, Ireland's assistance to Britain grew significantly. Following the creation of the Donegal Corridor, by early 1941 RAF overflights of Irish territory were permitted along a narrow strip connecting Northern Ireland and the Atlantic.

Many British, and later American, aircrews crashing in Ireland were spirited across the border into Northern Ireland, rather than being interned. Of those who did enter detention, most were released long before the war ended while downed German flyers were confined throughout hostilities.

Increasingly, British and US aircraft landing intact on Irish soil were refuelled and allowed to continue. These incidents were sympathetically interpreted as peaceful missions: air-sea rescues, ferry flights, air tests. Damaged Allied machines were sometimes returned across the border.

In May 1941 Britain supplied ten Hawker Hectors for IAC use, followed by three more the following January. Obsolete and worn, these were unpopular; the Irish had been angling for Hurricanes. In September Hectors 81 and 83 collided at Gormanston and were struck off charge.

Walrus 18 embarked on a bold flight in January 1942. The four servicemen aboard, restless with neutrality, had decided life would be more exciting with the Luftwaffe. They set course from Rineanna for France to volunteer.

The Walrus evaded a searching Lysander, but the adventurers became lost. Intercepted by RAF Spitfires, the amphibian was compelled to land at St Eval in Cornwall. The Irish authorities were contacted, the airmen detained and taken home under guard. Collected by IAC personnel, 18 returned to Baldonnell, complete with a gleaming new Lewis gun donated by St Eval's armourers.

HURRICANES AT LAST

During 1941 a top-level enquiry, ordered by the Army's Chief of Staff, Lt Gen Dan McKenna, took place. This arose from the IAC's miserable equipment level and inadequate training. Concluding in early 1942, unsurprisingly improvements in flying training were proposed, together with greater numbers of pilots and many more aircraft. Although additional pilots were trained, aircraft numbers

remained low.

Six Miles Masters were delivered to Baldonnell on February 2, 1943. By then an Air Corps' reorganisation was under way and the following month Maj William Percy Delamere, with the service since its earliest days and previously an RAF flyer, was appointed its commanding officer.

During April Fighter Squadron moved to Rineanna, where facilities had slowly improved, beginning coastal patrol work as resources allowed. The Reconnaissance and Medium Bomber Squadron and Coastal Patrol Squadron were both disbanded, their aircraft joining Baldonnell's Air Corps School, which became the only other flying unit.

At last, on July 7, 1943 four Hurricane Is arrived from Britain, though they were distinctly war-weary. At that time, the 'windfall' Mk.IIs were returned to the British. In November Ireland received three more Mk.Is, a single example during February 1944 and three in March. With the crash of the final Gladiator and the remaining Lysanders transferred, Fighter Squadron became all-Hurricane.

Six cannon-armed Hurricane IIs were supplied in March 1945, the last aircraft acquired during The Emergency. In May, Fighter Squadron transferred to Gormanston. Over that summer and autumn a military tattoo and exhibition was held at the Royal Dublin Society, IAC equipment including two Hurricanes, a Magister and a Link trainer.

Plagued by maintenance problems, the Hurricanes remained in service until November 1947 when the final example, Mk.IIc 120, was withdrawn. Small and diverse it may have been, but the Air Corps both defended and interpreted Ireland's neutrality. ●





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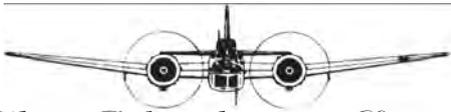
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Raising the standard



No.136 Squadron's banner has been in St Andrew's church since 1991, along with a brass plaque commemorating the unit's fallen. Both can be seen here.

I very much enjoyed James Holland's article on the exploits of 136 Squadron, 'The Woodpeckers', over Burma when flying Spitfires.

The squadron had originally formed under the command of Sqn Ldr T A F 'Jimmy' Elsdon at Kirton in Lindsey, Lincolnshire in 1941 but he soon led it to the Far

East when war broke out there. The squadron was disbanded at the end of the war and so never became eligible for the award of a Squadron Standard.

However, the Woodpeckers had maintained their wartime spirit post-war and in 1991, to commemorate the 50th anniversary of their formation,

the surviving members commissioned a banner in the style of a Squadron Standard on which were recorded No 136's badge and its major engagements.

Led by Wg Cdr Jimmy Elsdon, the surviving pilots of 136 Squadron presented this to St Andrew's Church at its original

home in Kirton in Lindsey on September 9, 1991, where it was dedicated and blessed by the Lord Bishop of Lincoln and laid up. It remains there as a permanent memorial to the squadron, together with a brass plaque commemorating the 29 'Woodpeckers' who did not return.

ANDREW THOMAS

Communication breakdown

I've waited a long time for you to you to Spotlight the de Havilland Venom and now it has arrived (*FlyPast* June 2016) I can say it was well worth the wait.

During my National Service (1955-1957) I was posted to 73 Squadron as a wireless mechanic and as we were a mobile squadron, I was able to visit nine different countries during my time of enlistment. Although the Venom FB1 was a fine

aircraft, it had one major problem. Every time its 20mm cannons were fired, the radio relays were sprayed with oil, causing numerous communication problems. It was a regular sight to see a Venom (or Venoms!) returning from a sortie having to waggle its wings as it passed the control tower to indicate loss of radio contact. A green Very flare fired from the control tower confirmed it was safe to land.

The relays were positioned forward of the bomb bay making

access very difficult. To change them, the armourers first had to remove the bomb bay doors and the four cannons. Sitting under the belly of the Venom in 110 degrees Fahrenheit heat in Aden made one somewhat anti-social. Fortunately, with the subsequent arrival of the updated FB4 variant, this problem was overcome.

May I correct one small error in the author's excellent piece. It was stated that 8 Squadron and its FB4s in Cyprus returned to Aden in

December 1956. In fact, it was the personnel only. Due to the recent Suez campaign, the Venoms could not return via Egypt and Sudan and because the staging posts via the Gulf were too long for the Venom's range, the aircraft remained where they were in Cyprus and Aden. Personnel from 73 and 8 Squadrons were transferred in Hastings aircraft and took over each other's aircraft on arrival.

DAVID GENT
KENILWORTH

Fitting it all in

I liked the feature on Martin Shaw and his Boeing PT-17 (*FlyPast*, July 2016) but was surprised that the BBC thought Martin's gliding training might not be achieved in one week.

I ferreted out my old RAF Form 3822 - an ATC cadet's Record of Training - and had a look at my gliding log. I trained at RAF Gliding School 632 at Meir, Stoke-on-Trent, on Slingsby Sedberghs and Cadets in the summer of 1957 at the age of 16.

After seven Sundays of instruction, 41 cable launches and about three hours' actual flying time, I managed the three solo flights. I hasten to add that I was

no more than average, as the other cadets on the course did more or less the same. It has probably been done already, but I would think that with one-to-one instruction, going solo is 'do-able' in a day.

My flying after that was just as a passenger on commercial flights, but I did have some exciting times flying in and out of bush airstrips in the New Hebrides in the mid-1970s on Islanders and Trislanders.

After that nostalgic ramble can I compliment you on a great magazine - news, features, reports and superb photographs all to look forward to each month.

TIM FOSTER
SCUNTHORPE

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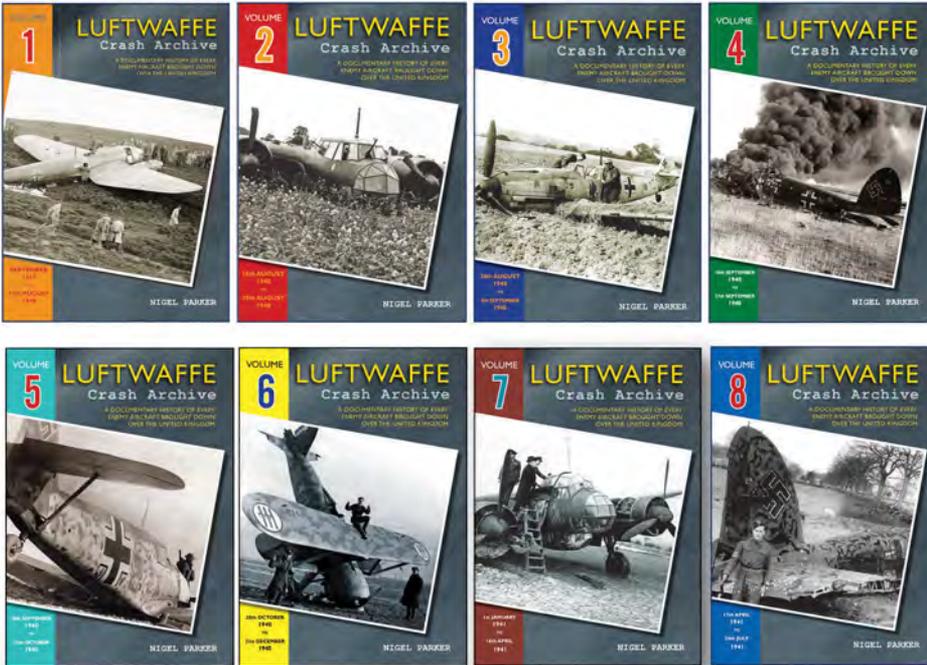
July 9-10, IWM Duxford - The British Airliner Collection of Duxford Aviation Society will have ten airliners open to the public at the Flying Legends airshow. All ten can be visited for £3 on both days. 01223 836593

July 30, Blackbushe Airport, Surrey - The Blackbushe Air Day will be taking place, with many

events starting from 10.30am onwards. Admission is £5. www.blackbusheairday.com

September 26, Arun & Chichester Air Enthusiasts Society, Chichester - Dick Richardson will be giving a talk on the 'Rise and Fall of the Strathallan Collection'. www.airaces.org.uk

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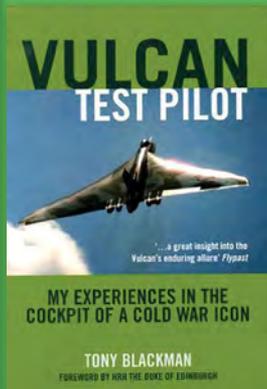
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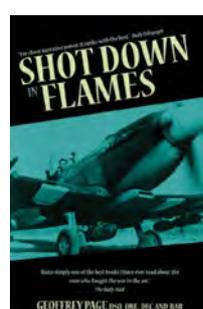
The Canadian Warplane Heritage Museum is pleased to present REUNION OF GIANTS - The Official Lancaster UK Tour Documentary! It has been 50 years since two Avro Lancaster bombers flew side by side. The Canadian Warplane Heritage Museum's Avro Lancaster, VeRA, flew from Hamilton, Ontario to meet her British counterpart, Thumper - the only other surviving flight worthy Lancaster bomber in the world - the RAF Battle of Britain Memorial Flight's (BBMF) Lancaster in England. **Region-free DVD, 83 minutes.**

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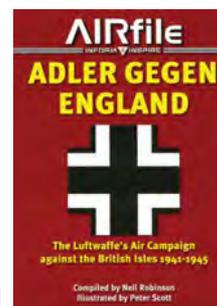


On 12 August 1940, during the Battle of Britain, in an engagement with Dornier Do 17s, Geoffrey Page was shot down into the English Channel, suffering severe burns. This eloquently written and critically acclaimed autobiography tells of his wartime exploits in the air and on the ground. This is a fascinating account of the courage and bravery of 'The Few', and of Geoffrey's later life and achievements, most particularly in the creation of The Battle of Britain memorial. **Softback, 256 pages.**

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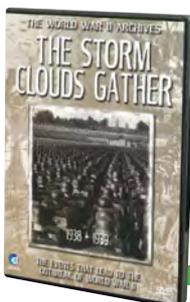
The year 1916 will always be remembered for the Battle of the Somme. Overshadowing the fighting in the Middle East and East Africa, the Irish Easter uprising and even the greatest naval engagement in history at Jutland, it is the Somme that has come to epitomise everything that was both heroic and hopeless in the world's first global conflict. **132 pages, special magazine.**

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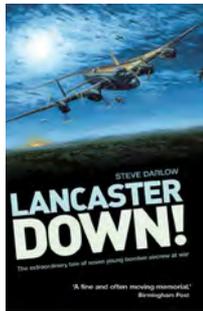
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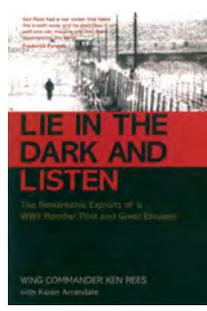


During WWII, on one raid alone, Nuremberg March 1944, more Bomber Command airmen lost their lives than were lost in the Battle of Britain. These were ordinary men who became part of extraordinary events. Their story, vividly recreated here, is special. The crew's tour starts with Bomber Command's Main Offensive in late 1943, continuing through D-Day and the invasion of Western Europe. One day though, they are shot down over Belgium, to become, in turn, prisoner, evader, casualty. **224 pages, Softback.**

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Lie in the Dark & Listen Book



Often quoted as the model for the Steve McQueen character in "The Great Escape", by age 21, Ken had already trained to be a pilot officer; flown 56 hair-raising bomber missions by night over Germany; taken part in the siege of Malta; got married; been shot down into a remote Norwegian lake; and been captured, interrogated and sent to Stalag Luft III. **Softback, 224 pages.**

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Malta Spitfire Book

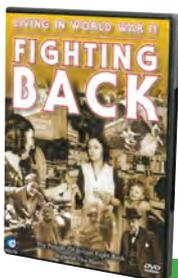


Flying twenty-five thousand feet above Malta where the Spitfires intercepted the Messerschmitts, Macchis and Reggians, was pilot George Beurling, nicknamed 'Screwball', who in fourteen flying days destroyed twenty-seven German and Italian aircraft, and damaged many more. "Malta Spitfire" tells his story and that of the gallant Spitfire squadron, 249, which day after day climbed to the 'top of the hill' to meet the enemy against overwhelming odds. **256 pages, softback.**

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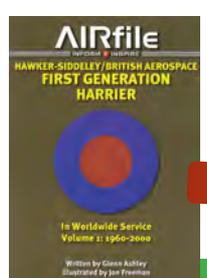


War Bonds, "business as usual", rummage sales for the Spitfire fund, make do and mend - this was the spirit of Britain in World War Two as Britain fought back against the Nazis. The Americans arrived in 1942 in huge numbers, changing life in Britain forever. This film contains rare and unique footage of everyday life in Britain and the mass VE Day celebrations. **Region 2 DVD, Running time 90 minutes.**

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Fly Navy Extravaganza!

Shuttleworth's 'Fly Navy' day airshow featured a varied range of warbirds. **Darren Harbar** was there

The Shuttleworth Collection drew the crowds amid the June sunshine, when its 'Fly Navy' airshow was hosted on June 5.

It's not unusual to get a few visiting acts into the Old Warden aerodrome, but this show was packed with a wide spectrum of naval aircraft types, from the current Royal Navy back to its earliest days.

The show was opened by the Royal Navy Heritage Trust operated de Havilland Sea Vixen, which was joined by Old Warden's own Sea Hurricane for a unique pairs pass before performing an impressive solo display in the blue skies.

Another eye-catching pairing was to follow, with the home-based

Hawker Sea Hurricane joining this issue's cover and centre star, the Air Leasing-operated Seafire F.III for a number of high-speed passes. Both of the Hawker Nimrods based at nearby Duxford were in attendance, and flew together with Shuttleworth's Hawker Demon.

Well received by the crowd was a welcome and rather impressive aerobatic display by the Royal Naval Historic Flight's (RNHF) CO, Chris Gotke in the flight's Chipmunk, while another interesting item was Aidan Grimley's beautiful Morane MS317.

The early years of the Royal Naval Air Service were well represented with the collection's Sopwith Pup, and the first public display by David

Bremner flying his grandad's Bristol Scout. However, one of the stars of the show had to be the sight of the RNHF Fairey Swordfish, which was accompanied by Old Warden's immaculate Gloster Gladiator, providing a great comparison of bi-plane design.

As if that wasn't enough, the finale featured more visitors from Duxford in the form of the Fighter Collection's Grumman Wildcat, Bearcat and Vought Corsair, which flew stunning routines against the most perfect of conditions for the mass of assembled photographers. If this show was anything to go by, the Military Pageant on July 3 promises to be a mouth-watering spectacle.



Above

De Havilland Sea Vixen XP624 shatters the silence with its twin Rolls-Royce Avon engines as it flies past the crowd.

Left to right

Representing the rotary side of naval flight was smartly painted Westland Wasp XT782, which is based at Thruxton.

The ever-popular Royal Naval Historic Flight Fairey Swordfish LS326 took to the air during the show.

Another popular performer on the warbird circuit is the Fighter Collection's Chance-Vought Corsair KD345.





Left
The Merlin-powered pairing of Seafire and Sea Hurricane turned heads at 'Fly Navy' in near-perfect airshow weather.



In Praise of
Old-Timers

A special event was held in California recently to celebrate two American thoroughbreds. Frank B Mormillo was there



Over the extended weekend of May 19 to 21, the West Coast Regional Stearman Fly-in took place at Gillespie Field, El Cajon in California. This year, the popular event was expanded to feature Ryan aircraft alongside the classic biplanes.

Organised by the San Diego Chapter of the Antique Airplane Association, the event attracted 21

Boeing Stearmans and six Ryans, along with a Laird LC-1B-300 Commercial, a Travel Air 4000 and a Supermarine Spitfire Mk.IX reproduction, among others.

Most of the participants arrived on Friday, and there was time for some formation flying over the field before an evening cocktail party and dinner. Saturday morning's activities included the departure of

many of the participating aircraft to the nearby Pauma Valley Air Park for lunch. After returning to Gillespie Field later in the afternoon, numerous aircraft went aloft again for a variety of flypasts and regional sightseeing flights. Those airborne included four of the so-called 'Square Tail' Stearmans, the less numerous predecessor of the Model 75. ●

Above left
Bill Allen flying his Stearman C3R alongside David Vopat in William Ben Scott's Stearman 4E over the Pacific Ocean near San Diego.

Above
A formation of Ryan PT-22 Recruits at the West Coast Regional Stearman Fly-in.
BOTH FRANK B MORMILLO



The 70th anniversary of the DHC Chipmunk's first flight was celebrated at Old Warden on May 22 (also see Airshow, page 23). The highlight of the event - which attracted around 50 examples of the famous 'breed' - was a flypast over the Bedfordshire airfield with some of the participating aircraft forming the shape of the number 70 in the sky. In the foreground is DHC-1 Chipmunk OY-AVF, a visitor from Denmark. PHOTO-DARREN HARBAR

next

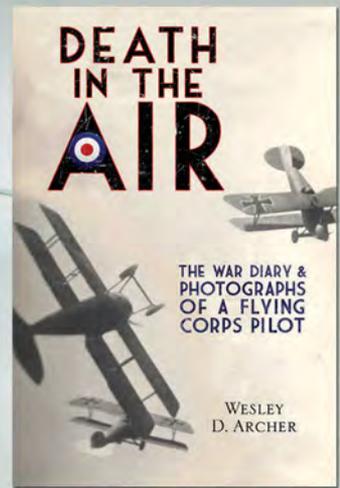
In next month's issue, we examine the Fairey Firefly, one of the Fleet Air Arm's most significant wartime aircraft. We also take a trip to the Hangar 11 collection at North Weald. Don't miss the September issue, which will be in UK shops on **August 1**, or see page 116 for our latest money-saving subscription offers.



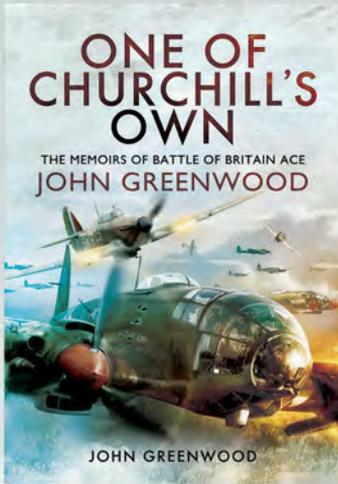
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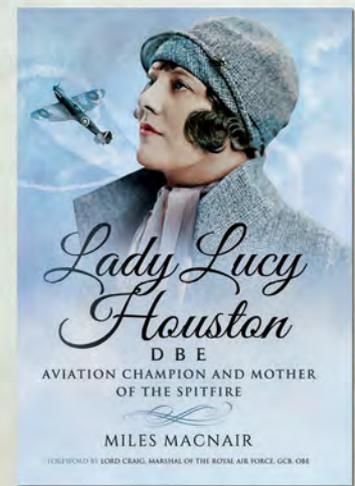
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