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It doesn't matter what year or anniversary it is, on a hot summer's day I always find myself looking up to the sky and thinking about that summer in 1940 which proved so pivotal in the war and gave this nation its finest hour.

While 82 might not be a 'special' anniversary, I think the Battle of Britain should be remembered every year and that's why, for our November issue, which went on sale shortly after Battle of Britain day on September 15, we have once again chosen to honour both The Few and 'the many' who played their part in the campaign.

If you have already flicked through this issue, you'll have discovered that I was recently fortunate enough to follow in the footsteps of some of The Few and experience a flight in a Spitfire for myself.

Taking off from IWM Duxford in a Spitfire on a balmy summer's afternoon evoked so many emotions and, while I have flown in various aircraft over the years, and hope to fly

in many more, I doubt any will have quite so much meaning for me.

I can only imagine how it must have felt taking off and flying into battle, not knowing what you were about to face or if you were going to come through it. But I do have some understanding of the joy of simply being aloft and looking down on this green and pleasant land as it slips beneath the wings of this iconic aircraft.

Every feature in this issue is, in some way, a tribute to those who came before us, their deeds, their dedication and the machines and history they created. I hope you enjoy it.

**James Peene**  
Editor



This original photograph, simply labelled "Luftwaffe intercepted over London, 1940" hangs in a frame on my office wall. It's an evocative snapshot of a brief moment in time that meant life and death to some

KEY-JAMES PEENE

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ABOVE: Thanks to Aerial Collective, enthusiasts have the chance to fly in warbirds from Duxford. Turn to page 10 and strap in GEORGE ROMAIN

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Always a popular presence at airshows, Boeing B-17G Flying Fortress 'Sally B' was among historic types at this year's RIAT. See page 42 KEY-JAMIE EWAN

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It seems fair to say that popular opinion has not been kind to the Boulton Paul Defiant. But has this Battle of Britain veteran, with its distinctive turret gun, been unfairly maligned? Certainly at the start of the conflict, the Defiant gave a good account of itself, as Graham Pitchfork reveals – while Andy Thomas describes how its courageous crews often defied the odds. Our special section is accompanied by exclusive profile artwork from Andy Hay





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Following meticulous restoration, a stunning Cessna Bird Dog has joined the UK circuit and bagged a prestigious award at Goodwood. Darren Harbar goes air-to-air with the Vietnam War specialist



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## Scramble!

Pilots from 85 Squadron run for their Hurricanes at RAF Debden during the height of the Battle of Britain in July 1940. Second from right – in short sleeves – is Dublin-born Gp Capt John Allman ‘Paddy’ Hemingway DFC. Then one of The Few, at 103 years old today he is the *last* known survivor of the Battle of Britain.

History tells of how The Few – a small band of courageous young aviators from all walks of life – refused to wilt in the face of Nazi tyranny, despite seemingly insurmountable odds. Spitfires and Hurricanes still grace the skies as the irreplaceable sound of their Merlin engines perpetuate the tale, but it’s the individual stories that truly capture the human sacrifice, significance and reality of the conflict.

As such, there has always been a strong sense of admiration for The Few, who gallantly took to the skies during those dark days of war. With countless people growing up idolising them as heroes, some even aspired to follow in their footsteps. However, it’s a sobering thought that of the almost 3,000 recognised Allied airmen who flew between July 10 and October 31, 1940, only John Hemingway survives today.

In an interview with *FlyPast* to commemorate the 85th anniversary of the Battle of Britain, John revealed: “I was just one of 3,000 pilots and 200,000 RAF personnel who won the Battle of Britain and I feel privileged to have met so many amazing young men and pilots – many of whom perished. The battle should not be about me, but all who served.”

Having survived everything a determined enemy could throw at him, John jovially puts the reason for his long and lucky life down to his heritage. As he summed up: “I can’t say don’t drink or don’t fool about with people or don’t fly and get shot at – I’ve done everything. And I’m an Irishman. The only advice I can give to people is to be Irish!” **FP**



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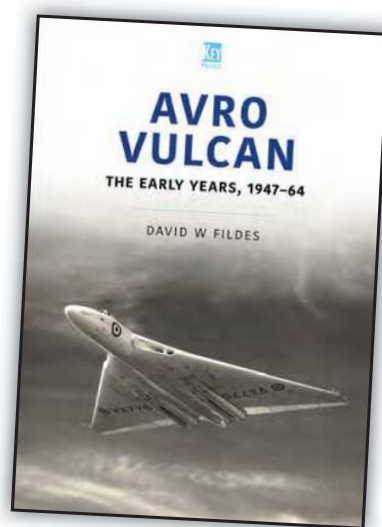


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### **AVRO VULCAN: THE EARLY YEARS, 1947-64**

Advances in aerodynamics and jet engine technology after World War Two led to the RAF requesting a bomber that could use these new technologies. To meet this, the Avro team adopted a Delta wing design. The design of the Delta wing Vulcan was a major gamble. However, it proved an incredibly valuable asset. After serving over three decades with the RAF, it was retired in 1984, but continued to display fly until 2015. With over 150 images, this book explores the history of the Vulcan, from concept to manufacture to service, providing insight from those who developed, designed, and flew it.



### From the Editor



For over 40 years, *FlyPast* has been at the heart of historic aviation. The magazine prides itself on providing the best coverage of the world of 'living history'. Each issue is packed with the latest restoration news, aircraft movements, preservation, products, events and air shows.

Our team of dedicated freelance and in-house writers also produce fascinating in-depth features on historical subjects covering the men, women and aircraft from World War One to the Cold War.

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**James Peene** - Editor

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***FlyPast's* James Peene** and **Jamie Ewan**  
enjoyed the ride of a lifetime when they visited  
Aerial Collective – a flight in a Spitfire



*An unexpected*  
JOURNEY

ABOVE: Writer James Peene with Aerial Collective's Head of Ground Ops, Lisa Waterfield, checking  
all is set for take-off RIGHT: Just one of the many evocative images Aerial Collective's regular  
photographer George Romain captures during his evening photography flights

ALL IMAGES GEORGE ROMAIN UNLESS STATED





“A money-can’t-buy  
experience that you can  
actually buy and, as the  
saying goes, don’t spend  
your money buying  
things, spend it on  
creating memories”





T

The title of this feature is a nod to one of J R R Tolkien's much-loved classics – the tale of an unlikely character plucked from his humdrum life and sent on an unimaginable journey that would change him forever. While neither of us are Hobbits, it works perfectly as a title because neither Jamie Ewan nor myself were expecting what followed whilst paying a visit to Aerial Collective.

As background, *FlyPast* were there to discuss a feature on the Duxford-based company's highly popular flight experiences. Jamie and I were sitting in the sun, drinking in the sights and sounds of the legendary aerodrome from their viewing area, occasionally stopping to look up when a Spitfire growled overhead, when Aerial Collective's manager, Jack McBride casually let into the conversation: "We'll run through a briefing and get you up." The conversation continued to flow for a moment before George Romain, who is responsible for the fantastic photos arrayed before you asked: "Do you want to fly?" To which Jamie replied: "Absolutely. We never turn down the chance to fly," but it was only while walking to the briefing room that their words sank in. They meant fly a Spitfire.

No mention had been made of us flying beforehand. We were happy just to have a Friday out of the office, nosing around Aerial Collective's hangar and talking shop. Jack's reasoning was: "If you're here to write about our flight experiences, you need to fully experience one in the same way all of our customers do." You could have bowled us both over with a feather.

Having sat in my all-time favourite aircraft on a previous trip to Duxford, N3200, the Mk I 'Whistling Spitfire' that Aircraft Restoration Company returned to the skies in 2014, I had thought that was as close as I was likely to get and was content with that. With prices starting at £2,975 (at the time of going to press) the opportunity to tick the number one thing off my bucket-list and actually fly in one wasn't completely out of reach, but with real life being what it is, there was always something else that came along that syphoned off my Spitfire savings pot. However, having now experienced this for myself first-hand, I can honestly say that flying with Aerial Collective is something anyone with a love of historic aviation should justify working towards. It's a money-can't-buy experience that you can actually buy and, as the saying goes, don't spend your money buying things, spend it on creating memories, because you can't take it with you in the end.

### Safety first

Much of that day is engraved on my mind for all time; other parts are understandably more hazy, such as the comprehensive pre-flight briefing delivered by the lovely Head of Ground Ops, Lisa

LEFT: It took slightly longer than the two-minute scramble time for James to settle in and take off, but good things come to he who waits



BELOW: The iconic sight – and sound – of a Spitfire taxiing out at Duxford, as viewed from Aerial Collective's impressive hangar



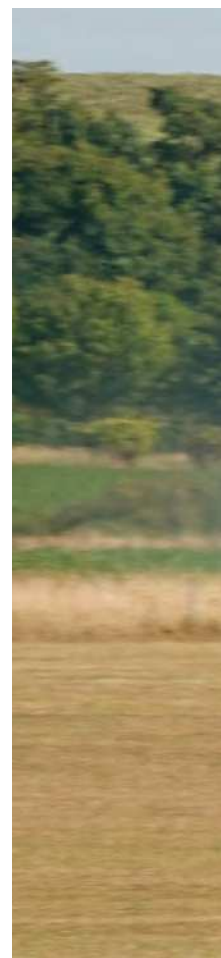


## FLY A SPITFIRE

Waterfield. I couldn't say how many briefings she has delivered, but her warmth, enthusiasm and knowledge flowed as it continued to sink in, this was really happening. She was equally lovely when we landed, handing us bottles of water and excited to hear our thoughts on the experience.

Pre-flight briefings are necessary to comply with current regulations pertaining to passenger flights. As well as showing a video, Lisa talked through the intricacies of how things like the seatbelt and parachute harnesses work, how the cockpit hood opens and what to do in the unlikely event of there being an emergency situation. No question is too trivial and it's also a time to voice any concerns or fears and bale out of the flight – while still on the ground – should you wish. There was zero chance of Jamie and I passing up this opportunity, and the next step was clambering into our flight gear while watching 'our Spitfires' being refuelled. Getting up close and personal with a Spitfire is an experience in itself, climbing aboard and strapping into one is next level stuff.

I'm a bigger chap than Jamie, so Spitfire T.IX PV202 was selected to be my steed. Built in 1944, it is credited with downing two Fw 190s and one Bf 109 during its wartime service and was converted to its current trainer specification while in the hands of the Irish Air Corps after the war. It has a larger, 'greenhouse' canopy than the 'bubble' type fitted to Jamie's aircraft on the







day, Spitfire T.IX PT462. Having left the Castle Bromwich factory in July 1944 as a single-seat HFIXe (High Altitude Fighter), with its smaller canopy PT462 was deemed a better fit for Jamie.

Having run through the flight plan beforehand, Chief Pilot Jon Gowdy started up and taxied us out. Simply sitting in a Spitfire with the Merlin running is a visceral experience. The sound, vibration and blast of air from the prop are the physical manifestations of the Merlin, but it's the feeling of sitting behind a living, (fire)-breathing Rolls-Royce Merlin that creates the strongest impression. The entire aircraft vibrates and comes alive as we weave towards the runway and line up for take-off.

As Jon works the controls, I'm careful not to let my hands or feet get in the way. Watching the stick, rudder and ailerons moving about seemingly of their own volition reinforces the sense of being inside some sort of snarling, mythical creature. And then we're off. Racing over the hallowed turf of Duxford, I immediately think of all those squadron scrambles I've seen in films and documentary footage over the years, but this is the first time I'm part of the action myself. American journalist Hunter S Thompson described it as 'gonzo journalism' – where the writer becomes part of the story – and this is as extreme an example of it as you can get.

The runway slips away beneath us and I look to my right to see Jamie in PT462 keeping perfect

ABOVE: **Don't just stand there, get one up – one of the many *Battle of Britain* movie lines that sprang to mind as we departed Duxford**

DAVID WHITWORTH

TOP LEFT: **Mission accomplished. Back on the ground the debrief begins, although words cannot do the experience justice**



LEFT: **Each flight is a unique experience and every passenger is treated the same by the professional Aerial Collective team**

station with us. Aerial Collective is the only flight experience in the UK where you can take off as a pair rather than individually and then form up. It's something else that adds to the entire experience. Taking off in formation with another Spitfire, from Duxford on a blisteringly hot summer's day, it's impossible not to think of the Battle of Britain and even though my face doesn't usually give much away, Jamie and I are grinning at each other like a pair of absolute loons through the canopy.

## High flight

The sound from the cockpit isn't what I expected. More a deafening roar than the guttural growl you hear from the outside, but the view over those unmistakable wings is exactly as I'd imagined, only better. It is utterly mesmerising watching the Cambridgeshire countryside slip beneath those elliptical wings. There is a lot of emotional baggage that accompanies the Spitfire – you can't help but think of all those who've gone before you and 'slipped the surly bonds of earth and danced the skies on laughter-silvered wings', as John Gillespie Magee's poem *High Flight* so aptly records. You forget you're in an instrument of war and simply bask in your surroundings. I kept thinking: "I'm in a Spitfire" over and over, on repeat.

Jon instructed me to alert him to any aircraft I might spot in our vicinity. The truth is, like a

RIGHT: That's quite the view from Aerial Collective's private viewing area



BELOW: Shared experience: from left, James and Jamie with pilots Willy Hackett and Jon Gowdy

sprog pilot new to the squadron, the only other aircraft I see is the other Spitfire formed up on our wingtip, so close, it seems, that you could almost reach out and touch it. Back on the ground, when I asked Jon how close we were he just smiled and said: "Close enough."

I have to take my hat off to Jon and all the other pilots and crew involved in these flight experiences. They remain calm and professional throughout, but also attentive and personal, which is no mean feat when you consider how many flights of this nature they must make. The strain of constantly being alert and keeping the experience enjoyable for all passengers, be it the first or last of the day, never once showed. Constantly checking in with me over the radio, but also leaving me alone enough to just enjoy my surroundings, we performed a couple of manoeuvres. The highlight for me, though, was simply being up in a Spitfire and in formation with another. I can think of no more evocative a sight than that and, as a writer, I'm almost ashamed to say that I'm struggling to find words to adequately explain the entire experience.

Aerial Collective offers a range of flight experiences, not just in Spitfires, but also Hurricanes, Mustangs, Blenheims and Lysanders. You can fly individually, or in a formation

**"The highlight for me, though, was simply being up in a Spitfire and in formation with another. I can think of no more evocative a sight than that"**

experience for two as Jamie and I did. You can even have a Spitfire on 109 (Buchon) tail chase for the 'full-fat' Battle of Britain experience.

Flight experiences vary in length, starting with a 30-minute flight, then 40, 50 and 60 minutes. Ours was 30 minutes and I have to say, it was enough. Simple as that. It was enough. I have the in-flight footage from the cockpit and tail camera but have only watched it to provide some content for work. I don't feel the need to watch it again to remind myself of that day. The thoughts and emotions I felt flying from Duxford in a Spitfire will always stay with me.

*Jamie recounts his experience overleaf...*









## Jamie's EXPERIENCE

As Friday afternoons go, July 8, 2022 will live with me for the rest of my life. Arriving at the Aerial Collective's Duxford home, it was like being greeted by old friends.

There was an air of excitement around the Aircraft Restoration Company/Aerial Collective's hangar as one their two-seat Spits burst into life. No matter how many times you have seen it, you can't help but be attracted to the sheer spectacle of a Rolls-Royce Merlin roaring into life as it shrouds the type's indomitable lines in a blueish smoke, as a smell – that would earn the person capable of bottling it millions – wafts through the air. Sheer heaven.

While chatting all things warbirds with Aerial Collective's George Romain and Jack McBride, I couldn't help but look on in envy as people climbed into a waiting two-seater for what is arguably the ultimate aviation experience – a flight in a Spitfire. Watching on and smiling at the thought "One day...", you can imagine the look on my face when Jack casually said: "Right, go get briefed, you're going up!" Before I knew it, or should I say before it hit me what he meant,

ABOVE: The face of a certain aviation geek journalist, who has just had his first taste of flying one of Supermarine's finest

RIGHT: James and Jamie during the flight of a lifetime  
DAVID WHITWORTH



RIGHT: Holly Palmer-Davison was on-hand to help Jamie into the cockpit

I was briefed, wearing a flying suit, picking up a Campbell flying helmet and gloves and walking towards a Spitfire!

I've seen and sat in countless Spitfires over the years, but it was only then I realised how big 'she' really is. With Aerial Collective's Holly Palmer-Davison helping strap me in and my pilot Willy Hackett running through his checks, the engine soon burst into life. Suddenly, it was me shrouded in that blue smoke as *India X-Ray* growled into life and settled into a heavenly snarl as the instruments awoke from their slumber. Before long, the crackling and popping of the Merlin was broken by Willy running through his checks – funnily enough I did the same that evening while getting a Cessna 152 ready to fly! With a burst of power and a cheery wave from the groundcrew and those lining up at the fence to see an example of Mitchell's masterpiece heading for the skies, we were soon lined up on Duxford's runway 24L. Immediately, we were airborne as a pair and climbing over the hallowed Cambridgeshire airfield. I wouldn't be lying if I said that I haven't fully processed what happened over the next 20 minutes or so as we weaved through the skies as a pair, before breaking into an energetic tail chase.

I've heard the words 'You have control' countless times while flying over the years, but I never thought I would hear them over the heavenly growl of a Rolls-Royce Merlin, while looking over the iconic elliptical wing of a Spitfire. But there I was, moving my hand towards PT462's spade grip, as I replied to the words with my own – "I have control". I was flying a bloody Spitfire!

And yes, while floating through the wild blue yonder on that truly stunning July afternoon... I hummed *The Battle of Britain* soundtrack! **FP**







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*Robin Huggett*

# Cockpit

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## Cornish aerospace attraction set for closure

The CAHC's Lightning  
F.53 ZF580 CAHC



The Cornwall Aviation Heritage Centre (CAHC) is to be permanently closed from October 31 after Cornwall Council announced that it was withdrawing support.

In a statement that has now taken social media and various aviation forums by storm, CAHC's management said: "It is with heavy hearts and dismay that we can

confirm that we are set to close permanently following Cornwall Council's decision to no longer support our museum and therefore evict us from our site without viable alternatives being offered. The Cornwall Aviation Heritage Centre is a unique, highly successful, interactive aerospace visitor centre and education hub based at

Cornwall Airport, near to the new Spaceport Cornwall.

"CAHC was created by local people, is privately funded, pays commercial rents to Cornwall Council and is becoming nationally recognised as an aerospace site of excellence, yet Cornwall Council has failed to recognise the cultural and heritage value of our museum."

CAHC concluded its statement by saying that it was still endeavouring to find a solution or, if not successful, to find ways to preserve the aircraft and exhibits at another facility.

If you would like to sign a petition against the CAHC closure, it can be found via its Facebook page: [www.facebook.com/CornwallAHC](http://www.facebook.com/CornwallAHC)

## Canadian Avro Lancaster project making steady progress

Avro Lancaster B.10 FM104 has been partially reassembled at the Victoria International Airport-based BC Aviation Museum in British Columbia, Canada. "Steady progress is being made on this restoration," the attraction's Dave Jackson reports. "A lot of corroded or cut metal has been replaced, the undercarriage overhauled, canopy rebuilt, and engines disassembled for examination. We are taking our time to do this right the first time, ensuring we are using the correct materials and dimensions." [www.bcam.net](http://www.bcam.net) PHOTO-AARON BURTON





AA27111  
Messerschmitt  
Bf 109G-2 (Trop)  
'Red 1', Hauptmann Werner  
Schröder, Officer Commanding 8./  
JG27, Rhodes, Greece, early 1943

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# GERMAN DESERT ACE

## Welcome to the War Under the Sun!

This distinctive Messerschmitt Bf 109G-2 (Trop) was piloted by German Fighter Ace Werner Schröder out of Rhodes in early 1943. Schröder would go on to become the second most successful claimant of the Mediterranean theatre, and by the end of the war was credited with shooting down 114 aircraft. This model is the first in Corgi's new range of Second World War aircraft in the new 'War Under the Sun' range.



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## Classic jet restorations gather pace in Serbia



Soko Galeb G2 23170 in a striking new paint scheme at Lisicji Jarak airfield near Belgrade SALINGER IGOR

Former Yugoslav Air Force Soko Galeb G2 23170 / YU-YAB has received a new look, returning it to the striking white-and-red scheme it wore when it rolled out of the factory in 1968.

It initially flew from Zadar, in modern-day Croatia. After the break-up of former

Yugoslavia, the Galeb ended up with the air force of the Federal Republic of Yugoslavia (Serbia and Montenegro) until withdrawn from operational use in 1996. Three years later, it flew in civilian hands – in the late 1990s it was based at Biggin Hill and appeared at several events in grey-and-

green camouflage and former Yugoslav markings. After a brief return to Croatia, it was acquired by Galeb Flying Club in Serbia, where it is maintained and flown today.

The first Galeb prototype, 23001, is currently being restored by the group. The jet has suffered the effects

of exposure and was also damaged by bomb fragments in 1999 during Operation Allied Force. On completing its work, the group hopes to display '001' at Belgrade Aeronautical Museum, located near Belgrade Nikola Tesla International Airport.

SALINGER IGOR



## Navy Wings Swordfish flies again after overhaul

Fairey Swordfish Mk.I W5856 made its first flight in almost a year on August 17, following an extensive engine rebuild by Retro Track & Air. The entire propulsion system (engine, propeller, oil/fuel tanks and oil cooler) was fully overhauled before Lt Cdr Glenn Allison took the 1941-built aircraft aloft for a successful 30-minute flight from Yeovilton. [www.navywings.org.uk](http://www.navywings.org.uk) LEE HOWARD

## Metheringham Dakota fundraiser

Lincolnshire's Metheringham Airfield Visitor Centre has launched a fundraising campaign to help it repaint 1944-built Douglas C-47A Dakota KG651. It's aiming to keep one side in newly applied colours that maintain its original RAF identity, with the other representing a USAAF C-47A Skytrain. The identity of the USAAF side can be specified by anyone making a single donation of £1,000. See [www.justgiving.com/campaign/MAVC-DAKOTA](http://www.justgiving.com/campaign/MAVC-DAKOTA) MAVC





# Airworthy Mustang goes 'home' to Australia

Former RAAF North American P-51D Mustang 44-13016 (A68-674) has returned to Australia after being acquired by collector Doug Hamilton of Wangaratta, Victoria. Registered VH-LUI, it's set to join Doug's Curtiss P-40 Kittyhawk at its new home.

After being retired from military service, the aircraft changed hands several times and required

significant restorative work, partly due to having been held in external storage for several years. It was sold to Steve Wilmans of King City Aviation, California, with restoration work beginning in 1984. The fighter made its first flight in nearly 40 years during 1992, and flew on the US register as N5551D until moving to Wanaka, New Zealand, where it flew again in 2005. PHIL BUCKLEY



Mustang 44-13016 is now resident in Australia GAVIN CONROY

## 'Flying Crane' taking shape in Connecticut

The sole Sikorsky S-60 'Flying Crane' has entered a 12th year of restoration at the Connecticut Air and Space Center (CASC) in Stratford, Connecticut. After suffering an accident on April 3, 1961, the remains were donated to the New England Air Museum and, in 2010, transferred to the skilled volunteers at CASC.

First flown in 1959, the S-60 was a conceptual helicopter that ultimately led to the CH-54/S-64 Sky Crane. "The S-60 was the last design that Igor Sikorsky was fully involved in," said project

director Bill Fickes. "It's one of the most extensive and difficult restorations ever."

The cockpit and tail boom are close to completion, with the team now turning its attention to the machine's centre section, which was largely destroyed in the accident. A replacement CH-37/S-56 section has been sourced, but each of the four main beam attachment fittings need to be moved 16in inboard to accommodate the narrower S-60 cockpit and tail boom. [ctairandspace.org](http://ctairandspace.org)

WITH THANKS TO JERRY O'NEILL



The unique Sikorsky S-60 'Flying Crane' laid out during the Connecticut Air and Space Center's successful Helicopter Weekend in July JERRY O'NEILL

## Sale of US warbird fleet confirmed

The extensive aircraft collection belonging to the late Paul Allen's Flying Heritage and Combat Armor Museum (FHCAM) has been sold to the Wartime History Museum (WHM), a non-profit organisation established by warbird pilot Stuart Walton. The collection will remain at its current location, Paine Field in Everett, Washington State. A statement from FHCAM confirmed the assets were "being sold consistent with Allen's wishes."

Terms of the agreement were not disclosed, but "all

proceeds will be earmarked for philanthropy." WHM plans to reopen FHCAM to the public at its current location within the next year and will share additional details when plans are finalised.

"This incredible collection reminds us of the significance vintage aircraft have had on our nation," said Stuart. "We hope to share these important artefacts for generations to come and unearth inspiring stories to help fuel innovation, understanding and exploration."

[www.flyingheritage.org](http://www.flyingheritage.org)



The Scaled Composites White Knight carrier aircraft suspended above warbirds at the Flying Heritage and Combat Armor Museum ERIC FRIEDEBACH

# Charity in talks to move Avro Vulcan XH558 to a new home in 2023



ABOVE: The Vulcan at its Doncaster home KEY COLLECTION

Avro Vulcan B.2 XH558 is being prepared for a move away from Doncaster Sheffield Airport (DSA), scheduled for June 2023 – and the team hasn't ruled out the tantalising possibility of flying the iconic machine out.

Vulcan to the Sky Trust (VTST), the charity behind the restoration and return to flight of XH558, has been renting space on the airfield from DSA for the aircraft following an unsuccessful fundraising campaign to build a new permanent home for the Vulcan.

John Sharman, chairman of VTST trustees, said: "Our current agreement for parking our aircraft at DSA, together with access for our staff, volunteers, and visitors, runs until June 2023. We have to leave the site at that time. This is a blow to the Trust and will be very sad news for our supporters but for some months we have been exploring options for XH558 to leave Doncaster."

XH558 flew into the airport in March 2011 and, for a number of years, millions of supporters were able to

see and hear the mighty V-bomber fly at airshows and other events. John added: "Since the aircraft was grounded in 2015, we've been working to build her the type of home that befits such an iconic piece of aviation history. Sadly, our latest fundraising appeal didn't bring in the money needed to build a hangar. We are working on two potential sites where we know we can protect her for decades to come and deliver on [project founder, the late] Robert Fleming's vision, inspiring youngsters to pursue productive careers in engineering. Relocation will bring significant challenges but outcomes we believe the VTST can deliver."

VTST is exploring a number of options, including the possibility of a short ferry flight to get the aircraft to a new location intact, or dismantle and rebuild it in a dedicated permanent home.

John said: "The option for a one-off flight demonstrates that VTST is exploring every option."

"We were always told that we would not get approval for her to fly again by the CAA. However, we are now in discussion with them to explore any potential way forward. If this might be an option, it's not one we can ignore."

"The alternative is to dismantle the aircraft and move it to a proposed home and we have two potential locations under negotiation. As soon as a decision has been made, we'll be able to put the wheels in motion and we'll keep our supporters updated throughout this process."

Yorkshire Air Museum has countered speculation by confirming that it will not be taking on XH558.

[www.vulcantothesky.org](http://www.vulcantothesky.org)

BELOW: Avro Vulcan B.2 XH558 flying in 2015 JOHN DIBBS-VTST





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## Australian Twin Pioneer flies to new home

Scottish Aviation Twin Pioneer VH-SYS has joined the HARS collection at Albion Park in New South Wales, having been based at nearby Wedderburn for many years.

The 1962-built British classic made the short

flight to its new home on July 30. It was the penultimate example from a production run of 87 airframes and initially flew with the Royal Malaysian Air Force as FM1066. It entered civilian hands in 1972, when it was acquired by

Australian company Aerial Agriculture. It sat in open storage until January 1982 until being certified for flight operations, which it undertook until 2011.

Transferred to Wedderburn as VH-EVB, further work to return it to the skies was

carried out by a team of volunteers led by Richard Thompson. It successfully flew again a few years ago, with Richard changing the registration to VH-SYS in tribute to former owner Sy Allsep. [www.hars.org.au](http://www.hars.org.au)

PHIL BUCKLEY



Twin Pioneer VH-SYS pictured at Wedderburn in 2017 PHIL BUCKLEY

## Excavated Messerschmitt engines on display

A special exhibition has recently been mounted in Monterblanc, France, showcasing the engines of three JG 53 Messerschmitt Bf 109s that crashed in the region during 1944.

On June 12 and 13 that year, fighters from II/JG 53 took off on missions from Vannes-Meucon airfield – the unit was based there for around a week after D-Day. Their objective was to intercept Allied bombers, but three did not return to base, having been shot down close to Ille-et-Vilaine and Morbihan in Brittany, and the wrecks were never recovered.

In 1982, 2003 and 2004, the Air Mémorial group and

ABSA 39-45 undertook a successful quest to locate the crashed aircraft. Of the pilots, only the remains of 21-year-old Lt Harti Schmiedel were recovered. He was laid to rest in Mont-de-Huisnes cemetery in Normandy and, thanks to further research by ABSA 39-45, his funeral was attended by his wartime fiancée, some 60 years after his death.

In July and August this year, the engines from the three Bf 109s were displayed together for the first time at Monterblanc's library. The town is located close to Vannes-Meucon, from which the fighters were operating.

WITH THANKS TO FRANK BERNARD



The Daimler-Benz engine from Helmut Rosenbaum's Messerschmitt Bf 109 on display at the town library in Monterblanc in northwest France VIA FRANK BERNARD



## South Wales museum receives Canberra



Canberra WK126 was delivered to St Athan in August GARY SPOORS-GJD

The St Athan-based South Wales Aviation Museum took delivery of 1954-built English Electric Canberra TT.18 WK126 in August in a move facilitated by Gary Spoors' GJD Services. The airframe is reported to be in fairly good condition, although vandals have smashed the canopy and nose glass.

WK126 was built as a B.2 at Woodford in Cheshire and was initially assigned to 9 Squadron before moving on to Wittering-based 100 Squadron. It was converted to

TT.18 status in 1967 by BAC at Salmesbury in Lancashire, and then transferred to the Royal Navy. It served with flight refuelling units, including stints at Tarrant Rushton and Yeovilton.

The jet has been subject to various modifications and refurbishments over the years, ending its service days in storage at St Athan. From 1996 it had been resident in disassembled state at Gloucester's Jet Age Museum, prior to its recent move.

[www.swam.online](http://www.swam.online)

## Warbird tragedies in Czech Republic and US

Pilot Petr Paces was killed when Hawker Hurricane Mk.IV KZ321 (BE150/ OO-HUR) was lost in an accident at Cheb on August 14. Returned to the skies by Hawker Restorations for The Fighter Collection in 2003, the Hurricane subsequently flew with Vintage Wings of Canada before returning to Europe. It was acquired by a group connected with the

Tocná Aviation Museum near Prague, arriving in June.

The warbird world was hit by a second tragedy on September 2, when acclaimed racing pilot Sherman Smoot was lost in modified Yakovlev Yak-11 *Czech Mate* as he prepared for Nevada's annual Reno Air Races. The aircraft crashed at Minter Field Airport in California.



Hawker Hurricane Mk.IV KZ321 VIA TOCNÁ AIRPORT

## New colours for Dumfries Hunter and Meteor

The team at Dumfries & Galloway Aviation Museum has finished repainting two of the attraction's aircraft. Hawker Hunter F.4 WT746 has been given an eye-catching Black Arrows livery, although it never actually flew with the display team. 1952-built Gloster Meteor T.7 WL375 has been returned to the last scheme it wore with the Aircraft Experimental Establishment at West Freugh, including a distinctive yellow fin and rudder.

For more see [www.dumfriesaviationmuseum.com](http://www.dumfriesaviationmuseum.com) WITH THANKS TO BOB SLOAN



## Chilean Air Force gifts four aircraft to museum collection



2000s. Sadly, the museum has said farewell to Douglas DC-3 CC-CBW.

The aircraft's condition had deteriorated after many years of exposure, but it is now serving as a useful source of spares for the attraction's remaining DC-3/C-47.

LEFT: Learjet FACH 351 has recently been repainted at Chile's MNAE

WORDS AND PICTURES: ÁLVARO ROMERO

BELOW: A project to restore Grumman HU-16B Albatross FACH 570 is nearing completion

Chile's Museo Nacional Aeronáutico y del Espacio (MNAE) celebrated its 78th anniversary by confirming that the Chilean Air Force (FACH) is to donate four aircraft to its collection.

These comprise two Bell UH-1Hs (H-76 and H-78), a Lockheed C-130B Hercules (FACH 998), and perhaps more interestingly, a unique Boeing 707 Cóndor AEW (IAI Phalcon).

Staff are currently looking

into the inevitably complex logistics of disassembling and shipping the larger aircraft to the museum.

MNAE has also received Beechcraft H35 Bonanza D4888, which was donated by a private owner, and is in the process of completing restoration work on Grumman HU-16B Albatross FACH 570, and Learjet 35 FACH 351, which is being returned to a colour scheme it wore in service prior to the early



## Military Beechcraft poised for restoration in Florida

Beechcraft RU-21 67-18113 is to be moved to the restoration hangar at Florida's Valiant Air Command Museum, where it will be fully refurbished to static display condition. The exhibit, an airborne radio direction finding variant of the U-21A, has been a resident at the Titusville attraction for several years. It flew with the 1st Army Security Agency Aviation Company from 1972

TONY SACKETOS





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Sample Pages at

[WWW.WINGLEADER.CO.UK](http://WWW.WINGLEADER.CO.UK)

## Supermarine racer project under way in Cornwall



A Supermarine S.5 is being created at Bodmin in Cornwall by the charity Supermarine Seaplane. It aims to use the skills of local designers and engineers to return one of these magnificent aeroplanes, originally designed in the 1920s to participate in the Schneider Trophy, to the skies. The S.5 turned out to be significant, not to mention being among the most eye-catching aeroplanes ever built; it was the forerunner to a line of racing aircraft that ultimately led to the Spitfire.

Already on the UK civil register as G-SNDR, the reproduction's wings are currently being assembled at Bodmin's Cornwall Flying Club and are due for completion in the next few months. The

charity will then turn its attention to the floats, fuselage and engine. It is keen to work with local schools and is looking for additional, locally based people with relevant skills. The construction is being led by Rod Bellamy, who has 40 years of experience both flying and building aircraft, supported by Bruce Keeping who specialises in timber composite materials.

Large components of the aircraft will be stored in

Somerset, with the aircraft's eventual test flying taking place at the home of Supermarine, Calshot in Hampshire, where the original seaplanes and early Spitfires were built. Calshot was also a venue for the Schneider Trophy. The charity hopes

the aircraft will eventually be housed in an original 1914-built hangar. All being well, the aircraft should fly in time to celebrate the centenary of the S.5's Schneider win, in 2027. [www.supermarine-seaplane.co.uk](http://www.supermarine-seaplane.co.uk)

WITH THANKS TO WILL HOSIE



## We Salute You

Flt Lt **Richard E Boyd** DFC – one of relatively few RAF pilots to earn US wings as well as RAF wings, flew 33 operations with 195 Squadron and participated in raids on Dresden – died on August 17, age 100; Lt Col **James Dawson** AFC – Army Air Corps helicopter pilot who served during the Indonesian Confrontation, was deputy CFI at Middle Wallop and served on the Lynx Intensive Flying Trials Unit – on June 23, aged 93; **Frank Dell** – Mosquito pilot of 692 Squadron shot down and rescued by the Dutch Resistance, later chairman of the RAF Escaping Society – on May 30, aged 99; **Stella 'Jaye' Edwards** – was the last surviving British ATA pilot, and flew more than 20 different types, including Spitfires and Mustangs – on August 15, aged 103; **Norman Ellis Gregory** – flew 'ops' in 101 Squadron Lancasters before being shot down on May 22/23, 1944, and taken prisoner; he subsequently survived POW camps and the 'long marches' prior to liberation – on August 22, aged 100; Gp Capt **Reg Jordan** DFC AFC – Liberator pilot over Burma with 356 Squadron who later became a senior instructor at the Central Flying School – on June 30, aged 98; **David Williams** – a trainee wartime pilot who became the long-time chairman of The Spitfire Society, Eastern Region – on July 1, aged 101.





Pilot Dan Griffith making the last flight in the Desford on August 19 KEY-JAMIE EWAN

## Unique Reid and Sigrist Desford completes final flight

The only Reid and Sigrist Desford, VZ728 (G-AGOS) was delivered by air to Nottinghamshire's Newark Air Museum on August 19, thereby bringing its flying career to a close.

Test and display pilot Dan Griffith delivered the 1945-vintage twin-prop from Spanhoe, Northamptonshire, where it had been restored to airworthiness by Windmill Aviation. He landed the Desford on a grass strip within the Newark Showground site, after which

it was pushed along the access road into the adjacent museum premises.

The future of G-AGOS, which was conceived – and initially flown – as a trainer, designated RS3, before being modified to RS4 configuration for prone pilot trials beginning in 1951, had been uncertain for some time. Owned by Leicestershire County Council from 2005, having previously been loaned to the council-run Leicestershire Museum

Service since 1991, the Desford was stored at Snibston Discovery Park at Coalville as there was insufficient room to put it on public display. When the council decided to close Snibston, questions were raised over where the aircraft could be kept.

In 2014, it was moved to Spanhoe, where Windmill Aviation embarked upon a return to flight, headed by company boss Carl Tyers. On April 22, 2018, G-AGOS took to the air for the first

time since 1978. However, while the Desford's test-flying programme was completed in December 2020, Leicestershire County Council decided that it would not continue to be flown and agreed to retire it to Newark. On arrival, G-AGOS was initially put into the attraction's Hangar 2, but in future will be permanently exhibited in Hangar 1.

There will be a detailed feature looking at this remarkable aeroplane in next month's issue of *FlyPast*.



Dan brings the unique aeroplane in to land at Newark KEY-BEN DUNNELL



The Desford about to shut down at the conclusion of its final flight KEY-BEN DUNNELL





### DHC Supermunk

Built in 1952, this De Havilland Canada Supermunk is exclusively for sale with Eagles Eleven. It was previously operated by the Royal Air Force Gliding & Soaring Association with whom it saw service from 1974 until 2017.

After spending a short period at the Coventry Gliding Club, the aircraft was acquired by its current owner who spared no expense in restoring this unusual version of De Havilland Canada's famous Chipmunk.

Having restored more than 30 examples and being renowned for their expertise with the famous 'breed', Clive and Andrew Denney of

Vintage Fabrics were given the task of returning this aircraft to its former glory.


The reliable and easily maintained 180hp Lycoming engine was also zero-timed by Multiflight and the aircraft has flown just 50 hours since its restoration.

Currently on the UK register as G-BCKN, the machine benefits from a Garmin G5,

Becker AR6201 8.33 KHZ Radio and Becker Mode S Transponder. Also new as at restoration are magnetos, carburettor, fuel pump and starter, with a new compass fitted in November 2021.

The aircraft is hangared at Westair Blackpool Airport in Lancashire and is now ready to view by appointment.

It is priced at £112,000 (plus tax if applicable).

For more information visit [www.eagles11.com](http://www.eagles11.com) 



TOP: G-BCKN has flown just 50 hours since being restored by Vintage Fabrics

ALL IMAGES ROB STEWART VIA EAGLES ELEVEN

ABOVE RIGHT: The current owner kept a very loose hold on the purse strings in the restoration of G-BCKN

RIGHT: The Supermunk has a range of 225nm and cruising speed of 90kts



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**Web:** [bentleypriorymuseum.org.uk](http://bentleypriorymuseum.org.uk)

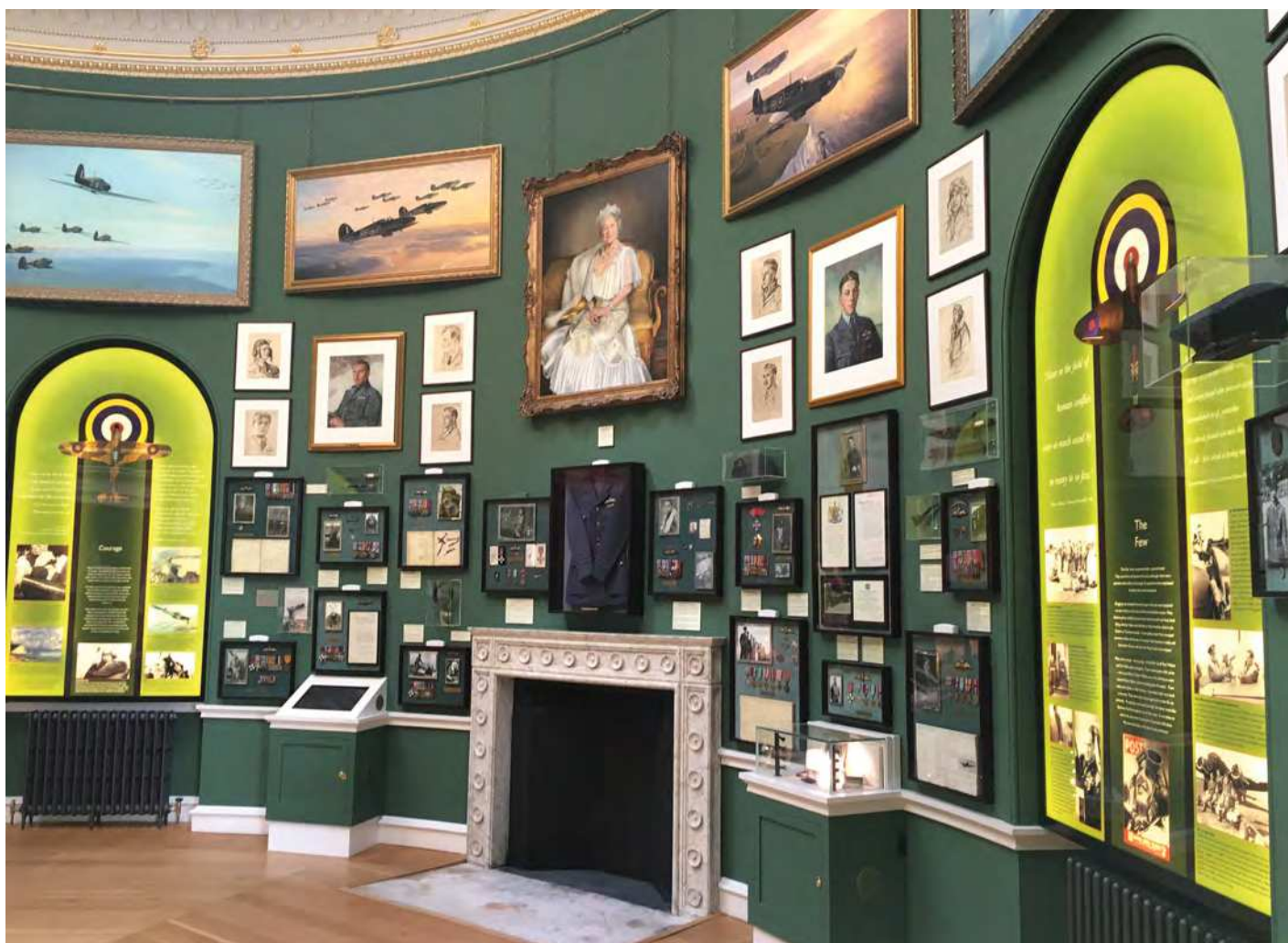
RIGHT: After eight years of planning and fundraising, Bentley Priory Museum opened to the public in 2013

KEY-JAMES PEENE

BELOW: The rotunda is full of fascinating artifacts relating to Fighter Command and the Battle of Britain, many of which were donated by former pilots and their families

Bentley Priory in north west London was acquired by the Air Ministry in 1926. The former Augustinian friary, stately home, hotel and girls' school became the home of the newly formed Fighter Command in July 1936, with Air Chief Marshal Sir Hugh Dowding taking up the position of its first commander-in-chief.

Fighter Command was combined with Bomber Command in 1968, to form Strike Command and Bentley Priory became an administrative and training unit. The RAF finally left in 2008 and Bentley Priory Museum was opened in 2013. The Grade II\* listed Officer's Mess and Italian







LEFT: The Italian gardens will be familiar to anyone who has watched the classic 1969 film *Battle of Britain*

BELOW: An original Operations Room clock which dates from Bentley Priory's days during the Battle of Britain

BOTTOM: Situated on the right-hand side of the entrance and designed by Brian Nicholls, the Hurricane window was created in 1990


**“The Italian gardens will be familiar to fans of the 1969 ‘Battle of Britain’ film, with Lawrence Olivier playing the part of Dowding”**

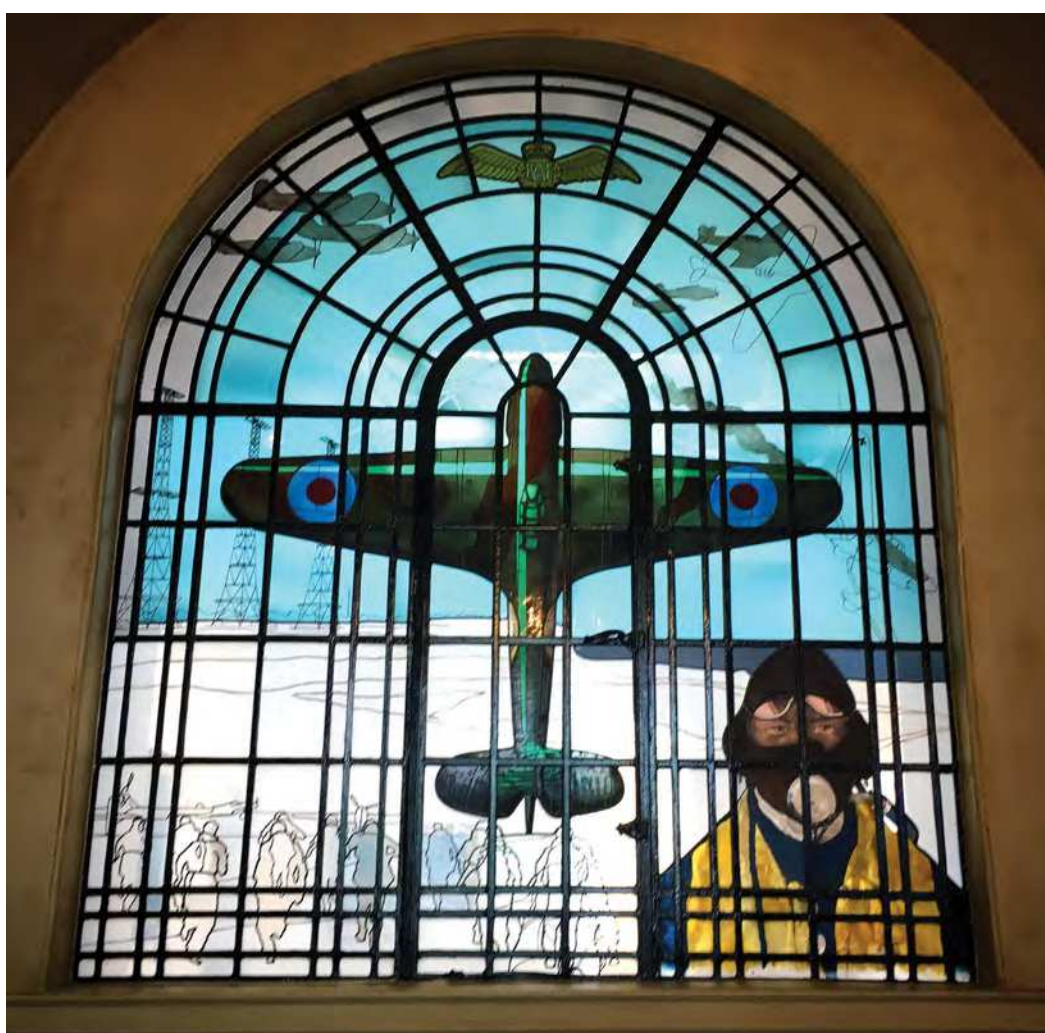


gardens will be familiar to fans of the 1969 *Battle of Britain* film, with Lawrence Olivier playing the part of Dowding, and walking out on the veranda to look at the sky in the closing scene of the film.

Dowding's original office and furniture remain in place, but looking up at the blue-painted ceiling reveals white specks that on closer scrutiny reveal themselves to be tiny British and German aircraft flying into battle. There is history at every turn and something of interest everywhere you look, from the stunning stained-glass windows in the entrance hall to the massive oil paintings, medals, uniforms and memorabilia in the rotunda.

Anyone with even a passing interest in this country's 'finest hour' should pay a visit to this historic building and its fantastic collection.

Details on admissions, directions and further information can be obtained via the website. 







FAR LEFT: One inch to one mile of 11 Group airfields and flying obstructions  
ALL IMAGES JAMES PEENE / KEY COLLECTION

LEFT: Southeast England was a lot quieter in 1940 – on the ground, at least, albeit not in the air

BELOW: Yesteryear's essential flying kit is today's wall art and conversation piece

## RAF aeronautical map

An old map of southeast England and London might not sound like the most interesting thing to hang on your wall, until you look a little closer and begin to take in some of the finer details. For example, the map is dated 1940 and it's an

RAF aeronautical map that's chock full of now historic names, such as Manston, Hawkinge, Hornchurch and Tangmere – many of these airfields would become well known for their vital role during the Battle of Britain. It also features a wealth of

information essential to any pilot navigating their way over the area at the time, such as the position of artillery ranges, air gunnery and bombing ranges, military balloons, marine and air lights.

Once you start looking, you can lose yourself in the details, searching for favourite airfields and

points of reference. Framing something so large, ideally with UV protective glass to prevent the precious subject material from being damaged by the sunlight, can add to the cost, but purchasing maps of this nature is easy enough with the likes of eBay and other online auction sites throwing them up on a regular basis. **FP**





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## Five months of the Mosquito

Having attended a presentation at the Boscombe Down Aviation Collection given by The People's Mosquito about its restoration of RL249 and receiving my July issue of *FlyPast*

with its splendid de Havilland content, my nostalgia for this wonderful aircraft was rekindled. I wanted to write

a few lines about my short experience flying the Mossie, including a dramatic episode.

On completion of flying training in Southern

Rhodesia (now Zimbabwe) and gaining our wings flying the North American Harvard, the majority of my course was sent to either a Spitfire Advanced Flying School (AFS) to fly fighters or to a

Wellington AFS to fly bombers.

Just two of us, Shep and I, were sent to No.204

AFS at RAF Driffield to fly

Mosquitos for eventual fighter-

bomber service. This

AFS had already gained a rather dubious reputation for its high accident rate – Shep and I were given a humorous 'wake' at our farewell party!

Thus it was with some excitement tinged with a little trepidation that, in January 1949, I was first introduced to the Mossie – it was a large step from the Harvard. I was crewed with an ex-Bomber Command navigator and joined four other crews, including Shep, to form Course No.131. So commenced one of the most exciting and enjoyable five months of my life.

During my time there were numerous accidents, two resulting in fatalities, the vast majority being 'ground-loops'. There were mutterings among the navigators at having to fly with inexperienced 'sprog' pilots which finally

culminated in them refusing to fly. The result was drastic. All aircrew were gathered in a room and addressed by the Station Commander, who read us the riot act. There was an immediate return to work, but I must say that I had every sympathy for the unhappy navs.

At course end, I was disappointed at being sent to a Bristol Brigand OCU while Shep was posted to a Mosquito squadron in Germany where, unfortunately, within three months he was killed in a flying accident. The Mosquito was certainly a delight to fly, but it could also be unforgiving.

**VIC CAMPDEN**

SALISBURY, WILTSHIRE

## Inspired by beautiful de Havilland

The July issue's de Havilland theme drew me to some special childhood memories. I was born in one of three houses in direct line with the runway at Hatfield, and I spent many of my young years watching from our back bedroom the aircraft taking off and landing. This included a famous maiden

flight – the Comet on July 27, 1949, with John Cunningham at the controls. Thirty-one minutes later it cast its graceful shadow over our house and garden when it landed.

I always wanted to be an engineer and entered the RAF as a 'Trenchard Brat' with the title of an 88th Entry Airframe Apprentice. My first posting

three years later was to 51 Squadron at Watton. Imagine my feelings on arrival, seeing three Comets and four Canberras! To me, the Comet is the most beautiful aircraft ever designed and built. I ended my RAF career on a third iconic British aircraft, the Lightning. Now at 80 years of age I have always followed

de Havilland's successes and low points. I owe my love of jets to sitting in my bedroom window watching all the great DH aircraft, and to my grandad who worked there as a parts inspector. Well done and thank you.

**KEN PEGDEN**

KINGSKERSWELL, DEVON



## Applause for 'Twelve O'Clock High'

In his editorial for the September issue, James Peene registered his praise for the film *Twelve O'Clock High* and I would like to echo his comments. As James says, it was filmed entirely in black and white

and made only four years after the end of the war, which gives it an immediacy and authenticity that others lack. James mentions one of the most memorable scenes in the film – we see Maj Stovall (Dean Jagger) stood

on the abandoned runway at the fictional Archbury. He is clearly remembering his wartime experience. We hear the sound of aero engines starting and building to a crescendo, and overlying that is the haunting chorus of 'We

are poor little lambs' as sung by the crews. Even writing this description, I find it spine-tingling. If you have never seen this film I would urge you to watch it.

**TERRY HAMMOND**

BOLTON, LANCASHIRE

## Crafting the 'wooden wonders'

In the July issue it was interesting to see a mention of the Horsa, another 'wooden wonder' alongside the Mosquito. Both being built from wood, it meant that 'non-strategic' furniture makers could be used as sub-contractors. One of the largest was Tottenham-based Harris Lebus. They made so many components that they were able to persuade de Havilland, who were also involved in the design of the Horsa, to introduce changes to improve manufacturing.

The company also made decoy tanks – 'parked' around East Anglia to fool the Germans into believing the main thrust of D-Day would be sent into the Pas de Calais region. Lebus had a huge fleet of trucks to deliver their products... a common sight in London and the Home Counties then. Their boss Sir Herman Lebus was knighted. One of his sons served in the Royal Marines under my father.

**MICHAEL POWELL**

VIA EMAIL



ABOVE: Test pilot and night-fighter ace Gp Capt John Cunningham CBE DSO\*\* DFC\* AE VIA G PITCHFORK

## Just Jane's low pass

As June saw the 53rd anniversary of Avro Lancaster *Just Jane's* last flight (to date), I wondered if anyone had a photograph of her low pass over Llyn Tegid (Bala Lake) en route from Hullavington to Squires Gate, Blackpool? It's probably a long shot, as

the route wasn't publicised in advance, and it would have been sheer good fortune for someone to have been in the vicinity with a camera. It would, however, be great to see the late Neil Williams doing his own 'Dambusters' bit!

**MARTIN COLLINS**

LINDFIELD, WEST SUSSEX

## Special memento

July's article on John Cunningham reminded me of a visit to Farnborough Air Show in 1962. I was lucky enough to be taken there by Folland test pilot Ted Tennant and English Electric's Lionel Taylor. Apart from the amazing flying displays, my main memory was that these men got my official

programme signed by test pilots: Cunningham, Bill Bedford and Hugh Merewether (Hawker Siddeley), Hedley Hazelden (Handley Page), Jock Bryce and Brian Trubshaw (Vickers), Geoffrey Auty (Bristol), and others. Unique!

**RICHARD BERRILL**

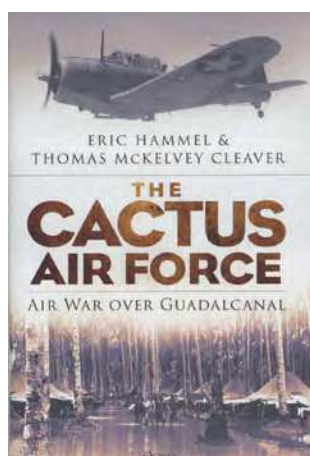
OWLS GREEN, SUFFOLK

## Critical Pacific battle

**THE CACTUS AIR FORCE – AIR WAR OVER GUADALCANAL**  
*Eric Hammel and Thomas McKelvey Cleaver*  
HBK, ILLUS, 335pp, £25  
[www.ospreypublishing.com](http://www.ospreypublishing.com)

The Allied success during the pivotal battle for Guadalcanal marked the furthest expansion south for the Japanese in World War Two – Allied victory removed any potential threat to New Zealand. The air fighting over Guadalcanal – code-named ‘Cactus’ – was long and bitterly contested, with the beleaguered US Navy and Marine aviators facing experienced adversaries who frequently outnumbered the defenders. This superbly written description of the conflict in the Pacific chronicles these battles with reference to official records and, more importantly,

personal accounts of the US participants taken from interviews and diaries. These graphic and moving accounts create a vivid narrative for the reader. This book is pacy and lively, so it should delight both military historians and the more general reader. It is well worth the £25 cover price. **ANDREW THOMAS**

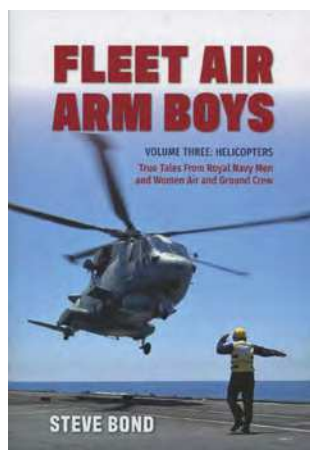


## Rotary wings at sea

**FLEET AIR ARM BOYS VOL 3: HELICOPTERS – TRUE TALES FROM ROYAL NAVY AIR AND GROUND CREW**  
Steve Bond  
HBK, ILLUS, 286pp, £25  
[www.grubstreet.co.uk](http://www.grubstreet.co.uk)

The latest addition to the popular Grub Street ‘Boys’ series is the eagerly awaited volume covering the rotary wing force. This well produced title provides insights mainly from aircrew, but with welcome inputs from the indispensable maintainers. The well-chosen selection covers everything from training through the early tribulations of anti-submarine warfare in often unreliable Whirlwinds and Wessex to the modern glass cockpits of today’s Merlins and Wildcats.

These are enthralling tales that highlight the hazards of flying from a pitching deck at sea, operations every bit as challenging as flying in the winds of the Falklands or deserts of Afghanistan. It’s a worthy addition to the popular series. **ANDREW THOMAS**

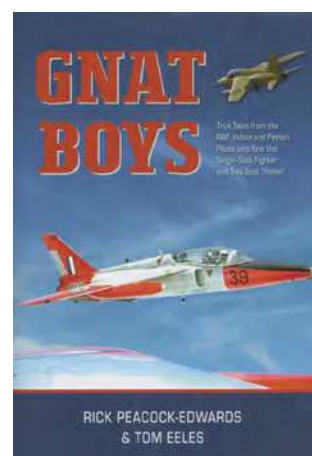


## From trainer to fighter

**GNAT BOYS – TRUE TALES FROM RAF, INDIAN AND FINNISH PILOTS**  
Rick Peacock-Edwards and Tom Eeles  
HBK, ILLUS, 253pp, £25  
[www.grubstreet.co.uk](http://www.grubstreet.co.uk)

For generations of RAF pilots, the path to the cockpit of a fast jet lay via advanced training on the Folland (later Hawker Siddeley) Gnat. This very well written book compiled by two former Gnat flying instructors focuses on the experience of RAF pilots, where the reader can readily visualise hurtling through the valleys of central Wales at high speed. Of particular interest will be accounts of the type’s use in formation aerobatics and the creation of the legendary Red Arrows. The narratives

of Indian pilots who flew the Gnat in combat are particularly welcome. The book is profusely illustrated, though the paucity of IAF photos is unfortunate but understandable. This is an enjoyable read for both the general reader and those who flew this diminutive icon. **ANDREW THOMAS**

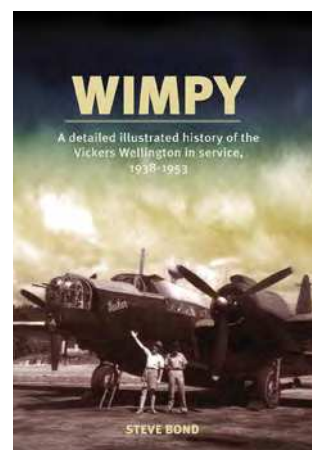


## Definitive history

**WIMPY – A DETAILED HISTORY OF THE VICKERS WELLINGTON IN SERVICE**  
Steve Bond  
SBK, ILLUS, 256pp, £20  
[www.grubstreet.co.uk](http://www.grubstreet.co.uk)

First published in 2014 and now available in paperback for the first time, Steve Bond’s work redresses the surprising lack of books about the remarkable Vickers Wellington. Historic aviation enthusiasts will know that the ‘Wimpy’ was responsible for a number of RAF ‘firsts’ – the only RAF bomber to serve in its original role from the first day of war to the last, the first type to bomb Germany, and so on. Steve’s work draws not just on official documentation

but on increasingly hard-to-find personal accounts from veterans. The result is a diligent and outstanding record that comprehensively covers everything from the Wellington’s early bombing campaigns to its later service with the FAA and the French.





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# Headlining

RIGHT: Top Aces' North American Douglas A-4N Skyhawk C-FGZE is a veteran of both the US Navy and the Israeli Air Force



FAR RIGHT: German-based P-51D Mustang 44-72927 WZ-W 'Frances Dell' (N51ZW) was part of the 75th Anniversary of the USAF line-up



RIGHT: Canadair CL-13 Sabre Mk.6 (F-86E) 01675/FU-675 (F-AYSB) is owned by noted French warbird expert Frédéric Akary of Mistral Warbirds



FAR RIGHT: One of two former FedEx Boeing 727-2S2F(RE) freighters converted for use by Oil Spill Response Limited





# g Historics

More than 200,000 people attended the Royal International Air Tattoo at RAF Fairford following a two-year hiatus.

FlyPast's **Jamie Ewan** was one of them

**W**hile many believe the Royal International Air Tattoo (RIAT) is solely for the diehard fast or heavy jet enthusiast, this year's event revealed that historic types and warbirds are equally important, especially in the days when military air arm's attentions are focused elsewhere. With more than 266 aircraft from across the globe descending on RAF Fairford in Gloucestershire, the majority of those touching down on the hallowed runway were historic.

With two very identifiable themes across the show – Training and the 75th Anniversary of the United

States Air Force – civilian and historic aircraft were key in filling the gaps that modern air forces can no longer fill. These included types often relegated to history or left to the mercy of the 'scrappers' and private individuals, both in the air and on the ground.

In the air, the RAF's Battle of Britain Memorial Flight led the way with its evocative three-ship comprising Lancaster, Hurricane and Spitfire, while the Rolls-Royce Heritage Flight's Mk.XIX revealed the sheer power and grace of a Griffon-powered Spitfire.

On the ground, visitors were treated to the glorious sight of Chard, Somerset-based Historic

Helicopters' Westland Wessex HU.5 XT761 and one of its all-yellow search-and-rescue Sea King HARs from the same manufacturer. Also present was East Midlands Airport-based Jet Provost T.5 (XW324/U), a pair of rocket-touting Vietnam-era Cessnas in the form of an L-19 Bird Dog (G-VNAM, see p106) and an O-2A Skymaster. There was also a plethora of 'L Birds', including a stunning Italian Air Force marked example, as well as Hawker Hunter Aviation's ex-Embraer Hunter T.72 'chase plane' XE688 and a trio SAAB 'twins' – Viggen, Lansen and Draken – from the Swedish Air Force Historic Flight. FP

BELOW: Wearing the eye-catching colours of a Mk.IXc flown by Lt Robert Connor of the USAAF's 309th Fighter Squadron while serving in the Mediterranean theatre of operations during 1944, the Suffolk Spitfire – Supermarine Spitfire Mk.XVle RW382/WZ-RR 'Porky II' (GPBIX) – shares the 'flightline' with USAF Lockheed Martin F-35A Lightning II 19-5475/LN of the RAF Lakenheath-based 48th Fighter Wing's 495th Fighter Squadron 'Valkyries'

ALL IMAGES KEY–JAMIE EWAN





# Cambridgeshire corker!

MAIN IMAGE: 'White 27': Bedecked in the blue and yellow markings of Ukraine, Yakovlev Yak-3U F-AZIM topsides the Little Gransden crowd in the hands of owner Bob Davies on August 28 ALL IMAGES KEY-JAMIE EWAN

Now in its 30th year, Little Gransden's Air & Car Show has raised an incredible £320,000 for charity since its inception. With 2022's edition on August 28 adding more than £50,000 to that figure, *FlyPast*'s **Jamie Ewan** reports from this oft-overlooked gem on the UK airshow circuit

RIGHT: Although slated to make its post-restoration debut following an engine failure in 2018, Mark Jefferies' Yakovlev Yak-11 'Moose' G-OYAK (actually a Czech licence-built Let C-11) was beaten by the weather, resulting in the Russian-marked machine completing a ground run instead



BELOW: The show allowed many visitors the chance to catch up with the Cambridge Bomber and Fighter Society's efforts in restoring Hawker Hurricane Mk.I L1639 – a Battle of France veteran shot down over the north of that country on May 14, 1940, while being flown by Sqn Ldr James B Parnall of 504 Squadron



RIGHT: Stuart Blanchard was on hand with an incredibly energetic display in his stunning 1947-built Miles M65 Gemini 1A – G-AKHP



RIGHT: An icon and its shadow: The Duxford-based Historic Aircraft Collection's Supermarine Spitfire Mk.Vb BM597 (G-MKVB) looking the part while awaiting its slot on the hallowed grass of Little Gransden







LEFT: Noted vintage aircraft exponent 'Taff' Stone climbs out in his delightful Spanish-marked 1940-built CASA 1-133 Jungmeister for a magical display of world class aerobatics. The aircraft has recently emerged from a near-decade long restoration



LEFT: RCAF Lockheed CP-140 Aurora 140116 from 405 (Vancouver) Long Range Patrol Squadron fills the skies with the drone of Allison turboprops during a single flypast. The unit traces its lineage to No.8 (Pathfinder) Group based at nearby Gransden Lodge Airfield during World War Two

BELOW: With its incredible art deco-esque lines, Nigel Finlayson and David Peters' Little Gransden-based Waco Aircraft Company Waco UPF-7 (G-UPFS) makes a welcome appearance in the static display



RIGHT: Left unpainted, the bare metal finish shows off the elegant beauty of Mitchell's masterpiece  
ALL IMAGES DAVID GLEN

FAR RIGHT: Gun button set to safe on the 1:5 scale spade grip

BELOW: David's model is accurate to the last rivet and smallest detail, and measures eight feet in length



### Information

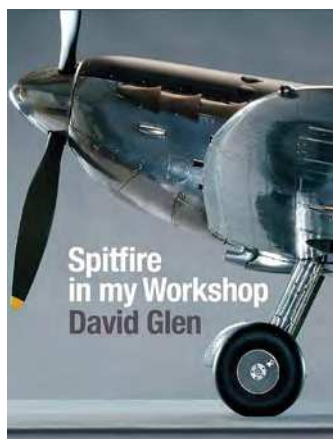
**Project:** Supermarine Spitfire Mk.I

**Scale:** 1:5

**Builder:** David Glen

## A fitting tribute to Mitchell's masterpiece

When asked why he chose to build a unique 1:5 scale Spitfire Mk.I obsessively detailed to the last rivet and fastener, David Glen appears hard-pushed for an answer.



"Perhaps," he muses, "it is because I have been in awe of R J Mitchell's masterpiece since childhood, and to build a scale replica is the closest I will ever get to possession."

During the 11 years that it took to complete his remarkable model, David came close to giving up: "I'm certain now that the countless hours of work would have proved too much, were it not for a serendipitous encounter at the Cambridge Aero Club with Dr Michael Fopp, then director general of the Royal Air Force Museum.

"Seeing the near-complete fuselage, he urged me on, promising to put the model on display. I was flabbergasted,

for I had no inkling that my work might end up in a position of honour at one of the world's most prestigious aviation sites."

In one respect, the story had gone full circle, because it was at the RAF Museum at Hendon where David started his research in earnest, sourcing microfilm copies of the many original Spitfire Mk.I drawings held in the museum's archive.

Skinned with litho-plate over a balsa wood core, the model was deliberately left in bare metal at the suggestion of Dr Fopp in order for it to represent the aircraft itself rather than any unit or squadron. The tens of thousands of tiny rivets in the airframe are real, and while most are for show, a significant number form actual mechanical fixings.

All interior detail was replicated using a combination of Supermarine drawings, workshop manuals and countless photographs, many taken opportunistically when David was a weekend volunteer with the Duxford Aviation Society.

"The model has its mistakes," David admits, "but I'll leave the experts to spot them, as they most certainly will. I don't pretend the little Spitfire is perfect, yet I hope it captures something of the spirit and incomparable beauty of the original – perhaps the closest to union that art and technology have ever come."

You can view the model on display at Hendon or order the fabulously detailed 192-page, large format book *Spitfire In My Workshop* exclusively from [www.warbirdsinyourworkshop.net](http://www.warbirdsinyourworkshop.net) for £39.99 plus postage. **FP**





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## Cockpit – Legends

MAIN: A wartime image of 'Branse' Burbridge in flying kit BOTH IMAGES VIA GRAHAM PITCHFORK

OPPOSITE: Burbridge and 'Bill' Skelton, whom he teamed up with while flying with 85 Squadron, creating a formidable night-fighter team





## ‘Branse’ Burbridge

**Bransome ‘Branse’ Burbridge was the RAF’s most successful World War Two night-fighter pilot, credited with the destruction of 21 enemy aircraft. On one patrol he destroyed four enemy aircraft.**

At the beginning of World War Two, Bransome Arthur Burbridge registered as a Conscientious Objector, but he later felt an increasing unease about his position and, in September 1940, joined the RAF. By October 1941 he had completed his training as a night-fighter pilot and joined No.85 Squadron.

‘Branse’ initially flew the Havoc, but success eluded him. After converting to the Mosquito, he spent time as an instructor. However, in July 1943, he returned to 85 Squadron, where he teamed up with radar operator Bill Skelton.

In Skelton, Burbridge had found the ideal partner. On the night of February 23, 1944, Skelton gained a contact on his radar set near Beachy Head and directed Burbridge behind an enemy night-fighter. After a long burst of cannon fire, one of the crew baled out and the fighter crashed into the sea.

Over the next few weeks, the two men accounted for a further four aircraft and they achieved further successes during the summer, including the destruction of three V-1 flying bombs.

Having flown in support of the D-Day landings, Burbridge and Skelton began operating over Occupied France. On the night of June 14/15, they intercepted and shot down a Junkers Ju 88 flown by the Luftwaffe Experten Major Wilhelm Herget – the German pilot survived. Ten days later, Burbridge claimed another Ju 88, but debris from the enemy aircraft hit his radiator, forcing him to return to base on one engine.

By September, flying the more capable Mosquito, the pair achieved an astonishing run of success over Germany. It began on September 11, when they shot down an enemy night-fighter. A month later they were supporting a Bomber Command raid on Brunswick when two more fell to their guns. A parachute was seen deploying from one of them. On the night of November 4, the two men, now dubbed in the national press as the ‘Night Hawk Partners’, took off to provide support for a bombing raid on Bochum.

Over the Bonn area, Skelton picked up a stream of contacts on his radar set and he directed Burbridge on to them. They soon identified a Ju 88 night-fighter and shot it down. Continuing their patrol, Skelton obtained another contact and, after a brief



engagement, a second Junkers was destroyed. The two now joined the homeward-bound bomber stream to protect it from attack. Within minutes they saw an enemy fighter, pursued it and shot it down. Before the night was over they had destroyed a fourth.

Their success continued and they downed a Messerschmitt Bf 110 over Mannheim on the night of November 21. Flying in support of RAF bombers attacking targets in Germany, they accounted for four more enemy fighters before the end of the year.

On January 2, 1945 the two men took off to support a bombing raid on Ludwigshafen in Bavaria. Skelton gained a contact and Burbridge closed in on a Ju 88. A short burst sent it crashing to the ground. It was the crew's 21st and final success. The following morning, Gp Capt John Cunningham, their former CO, telephoned his congratulations on their having become the most successful British and Commonwealth night-fighter partnership of the war.

After leaving No.85 in March 1945, Burbridge became the CO of the Night Fighter Leader's School. He left the RAF in December 1945 to read history at St Peter's College, Oxford. He died on November 1, 2016. FP

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### ‘Branse’ Burbridge’s RAF Service

**Flying Legend:** Bransome ‘Branse’ Burbridge

**Dates:** RAF 1940-1945

**Highest Rank:** Wing Commander

**Combat Record:** 21 destroyed, 2 probables, 1 damaged, 3 V-1s destroyed

**Awards:** DSO & Bar, DFC & Bar, DFC (US)


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# FLYING START

Before the Luftwaffe discovered its weak points, the Boulton Paul Defiant gave a good account of itself. **Graham Pitchfork** profiles two crews that had impressive success in the turret fighter

RIGHT: An air-to-air view of a Defiant day-fighter from 264 Squadron ALL VIA AUTHOR

FAR RIGHT: Crew from 264 Squadron, with Ted Thorn at front left. Fred Barker is on the back row, third from left



Portsmouth-born Edward Rowland Thorn joined 264 Squadron at Martlesham Heath, Suffolk, in October 1939, when he teamed up with Leading Aircraftman (LAC) Fred Barker. The unit was the first to be equipped with the Boulton Paul Defiant, a single-engined fighter fitted with a rear-facing gun turret in which was mounted four 0.303 machine-guns. It had no forward-firing fixed weapons.





No.264 had the responsibility of developing tactics for the new type and, after much flying and tactical training masterminded by the CO, Sqn Ldr Philip Hunter, the squadron was declared operational at the end of April. With the German invasion of the Low Countries, the unit moved to Duxford. From May 23, with the Allied armies in France retreating to the Channel ports, 264 flew to Manston in Kent each day to be nearer the action. At least two patrols in

squadron strength were flown daily over the coast of northern France.

The pace quickened as the British started withdrawing from Dunkirk on May 26. There was some action on May 27, and early the following morning Sqn Ldr Hunter led a formation on patrol between Dunkirk and Calais, when four Messerschmitt Bf 109Es were shot down. Thorn and Barker were one of the successful crews. Later that day, a flight of ten Defiants was attacked by a large

force of Bf 109s. The unusual armament configuration of the Defiant surprised the Luftwaffe fighters and they suffered heavy losses. Thorn and Barker shot down two more of the enemy aircraft.

May 29 turned out to be a memorable day for the squadron. After a skirmish with some Bf 109s, the CO spotted a group of Junkers Ju 87 'Stuka' dive-bombers with a Messerschmitt Bf 110 escort. Over the next few minutes, Thorn and Barker despatched a Ju 87 and a

Bf 110 before returning to Manston. Later that day, they encountered a very large formation of Ju 87s flying over the French beaches. In the melee that followed, Thorn and Barker accounted for another Stuka over Dunkirk. Returning to Manston exhausted, Thorn overshot the runway and wrote off the undercarriage of his aircraft.

It had been a remarkable day for the Defiant squadron and one that would not be repeated. No.264 was credited with shooting down 37 enemy aircraft, with

Thorn and Barker accounting for three of them. On May 31 they shot down an He 111 and damaged two others. Both sergeants were awarded immediate DFMs. No.264 returned to Duxford on June 3 before moving to Kirton-in-Lindsey in Lincolnshire.

### Tables turned

After a period of rest and training for new crews, No.264 headed for Hornchurch, Essex, under the command of 11 Group and was in action again on August 24 at

### Eric Barwell: Defiant victories

Date	number	type
May 29, 1940	1	Bf 109E
May 29, 1940	2	Ju 87
May 31, 1940	1	Bf 109E
May 31, 1940	1	He 111
Aug 24, 1940	1	Bf 109E
Apr 10/11, 1941	1	He 111

All with 264 Squadron. 'Kills' in May with LAC Williams as gunner; last two with Sgt Martin. On the night of April 10/11 another He 111 was claimed as a 'probable'.



**ABOVE:** A group photo of pilots from 264 Squadron circa 1940. Eric Barwell is in the centre

**LEFT:** A formal photograph of Eric Barwell

**BELOW:** Defiant crews between sorties

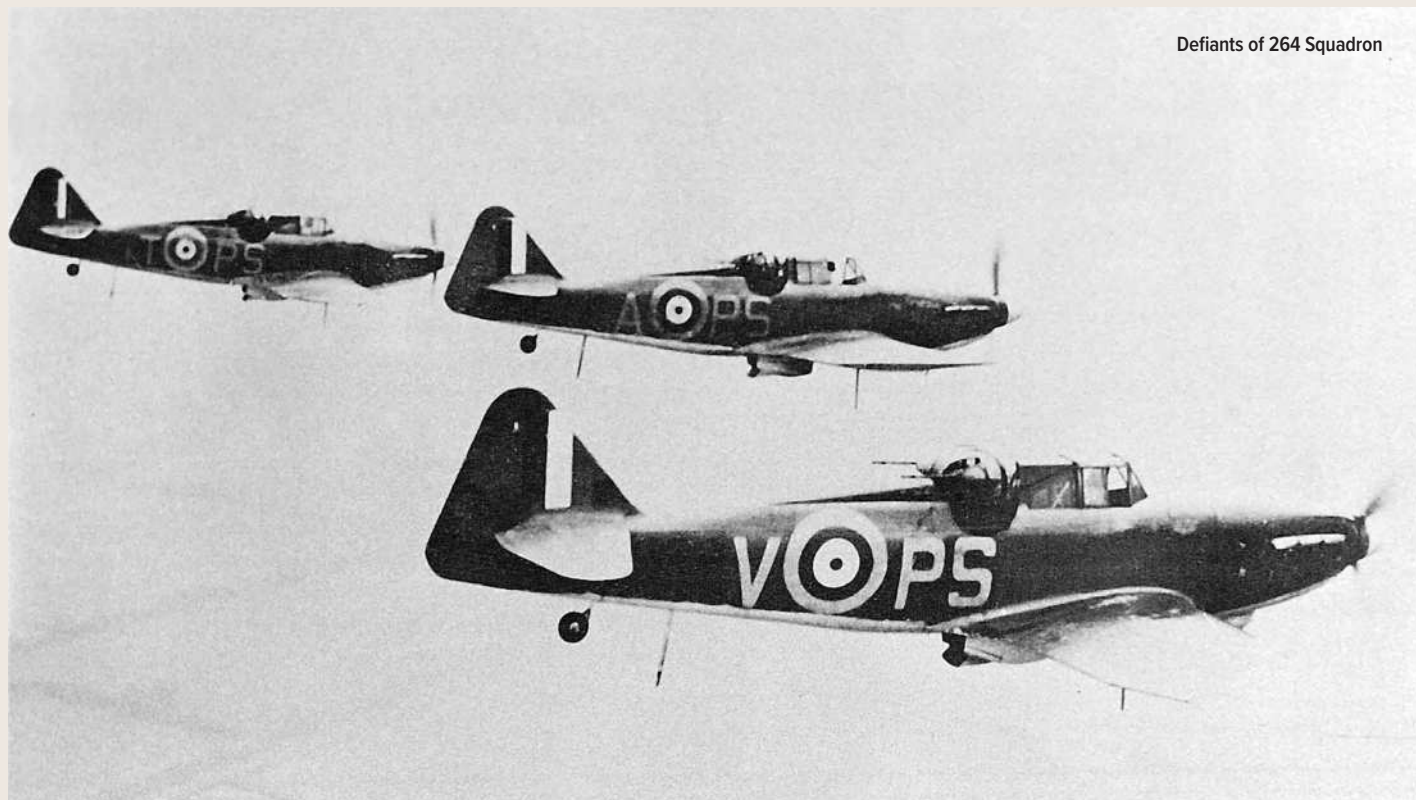


the height of the Battle of Britain. While refuelling at Manston, the airfield came under attack and the Defiants scrambled to intercept a force of 20 Junkers Ju 88s with an escort of Bf 109s. Each fought an individual combat and Thorn and Barker shot down a Ju 88. However, three Defiants were lost, including that of 264's charismatic CO, Philip Hunter, and his gunner, Plt Off F H King.

Two days later, the squadron took off to intercept a force of Dornier Do 17 bombers escorted by Bf 109s. Thorn and Barker claimed two before they were hit by one of the German fighters. With their aircraft on fire, Thorn dived in an attempt to put out the flames. He prepared to make a crash landing as the Bf 109 followed him down. Barker got in a good burst and shot it down.

By now, German fighter pilots had become familiar with the capabilities of the Defiant squadrons and they revised their tactics, inflicting heavy casualties in the process. The Defiant was totally outclassed and, during the week at Hornchurch, 14 aircrew were killed, including the CO. On August 29, the





## “The unusual armament configuration of the Defiant surprised the Luftwaffe fighters and they suffered heavy losses”

six surviving No.264 Squadron Defiants flew back to Kirton-in-Lindsey, their career as day-fighters over. Early in 1941, Thorn and Barker were each awarded a Bar to their DFM.

Once out of the front line, No.264 started to train as a night-fighter unit to counter the Luftwaffe's Blitz. Thorn and Barker achieved their one success at night on April 9/10, 1941. Over Surrey, they intercepted an He 111 and shot it down, the wreckage falling near Brooklands. It was their 12th and final success.

Thorn was commissioned and went on to command 32 Squadron with Hurricanes, leading the unit during the Dieppe raid on August 19, 1942, when “he displayed great courage” and was awarded a DFC. He returned to the night-fighter role in 1944, when he was appointed as flight commander with 169 Squadron, flying the Mosquito. At the end of the year, he added a Bar to his DFC. On February 12, 1946, Sqn Ldr E R Thorn was killed flying Gloster Meteor III EE456; he was 32.

Fred Barker remained with 264 Squadron until 1943, when he became a gunnery instructor in the Middle East. He

was commissioned and subsequently left the RAF in 1946.

### Channel ditching

Another 264 Squadron pilot who played a prominent role during the hectic spring and summer of 1940 was Eric Gordon Barwell, who was born at Clare in Suffolk on August 6, 1913. He was educated at Wellingborough School in Northamptonshire before joining the family engineering firm. In July 1938, he joined the RAF Volunteer Reserve to train as a pilot at Cambridge. At the start of the war he was called up and commissioned. Barwell joined 264 in February 1940, as the unit was developing tactics on the Defiant at Martlesham Heath.

On May 29, the day the squadron gained its greatest success; Plt Off Barwell and his gunner were responsible for the destruction of three enemy aircraft. In the first patrol of the day, they accounted for a Bf 109E, which crashed into the sea, and later they destroyed two Ju 87s off Dunkirk. Barwell formed under the Stukas before his gunner opened fire and both went up in flames.

Two days later, they shot down another Bf 109E off Dunkirk. During a second sortie, Barwell attacked Heinkels that were attempting to bomb the convoy of ‘Little Ships’ sailing across the Channel with evacuees. One of the bombers was shot down, but return fire hit L6972's engine, causing a leak in the coolant system. It was soon obvious that the Merlin would fail before the aircraft could reach the English coast. A line of ships stretched from the French coast to Kent, and Barwell kept them in sight.

When the engine seized, he ditched the Defiant between two destroyers, five miles south of Dover. His gunner, LAC J Williams, was knocked unconscious and Barwell managed to get him free and then hold his head above water. HMS *Malcolm* picked them up and landed them at Dover.

### Unrelenting action

After an inconclusive combat on August 24, Barwell and others landed at Manston to refuel and re-arm. They were soon scrambled to intercept a force of bombers approaching near Ramsgate. Taking off

in twos and threes, there was insufficient time to join up as a squadron.

Accompanied by another aircraft, Barwell set off in pursuit of the German bomber force that was now heading back to France. Five German fighters attacked him and his wingman, who was immediately shot down. Barwell then became involved in a fierce dogfight with the Messerschmitts – his gunner, Sgt Martin, managed to destroy one of them,

**RIGHT:** Six 264 Squadron Defiants during formation practice in July 1940

**BELOW:** A Defiant gunner about to go to work

**BOTTOM:** No.264 Squadron at Kirton-in-Lindsey circa 1940. Nearest to the camera is N1536 'PS-R'



and the Defiant was able to escape and land at Hornchurch.

When the squadron was withdrawn from the front line on August 29, Barwell was one of the six pilots who flew north to Kirton-in-Lindsey to train for the night-fighter role. He had destroyed six enemy aircraft during the spring and summer of 1940 and was awarded the DFC.

Barwell achieved his first success at night on April 10, 1941, when he and Sgt Martin shot down a Heinkel bomber near Beachy Head in Sussex, and probably destroyed a second. He was transferred to another Defiant unit, 125 Squadron, as a flight commander. In early 1942, it converted to take on the far more potent Bristol Beaufighter. Barwell's first combat in the new type was on the night of July 1, 1942, when he attacked a Dornier, but his cannons jammed and he had to use the less effective machine-guns and could only claim a 'damaged'.

On the same day, Barwell received terrible news. He learned that his elder brother, Gp Capt Philip R Barwell DFC, who was the station commander of the fighter base at Biggin Hill, had been shot down and killed over the English Channel in a tragic case of mistaken identity by Allied fighters.

Later in the war, Eric Barwell flew Mosquitos and achieved two further successes, in addition to destroying a V-1 flying bomb. By the end of the war he had been awarded a Bar to his DFC, was mentioned-in-despatches and received the Air Efficiency Award. He was released from the RAF as a wing commander in September 1945. He died on December 12, 2007. **FP**

*With thanks to Alec Brew for additional caption information*

**“Barwell formatted under the Stukas before his gunner opened fire and both went up in flames”**







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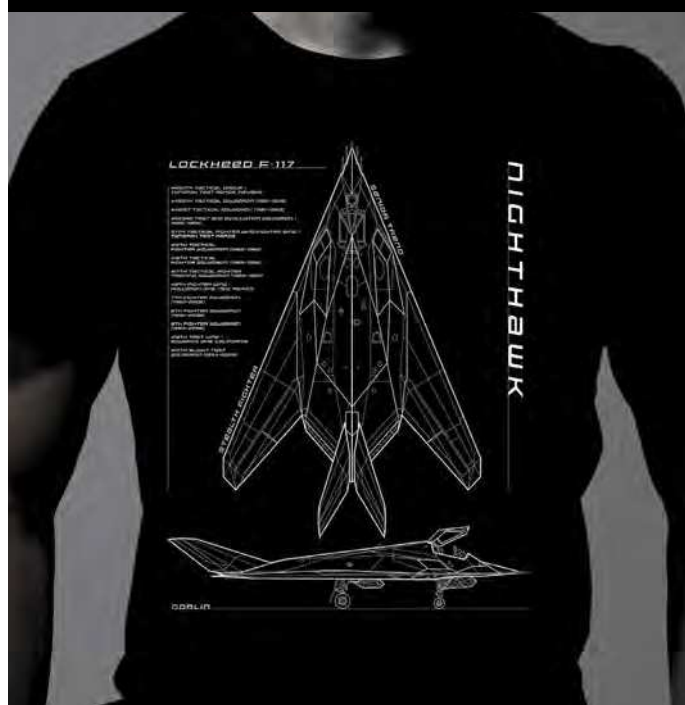




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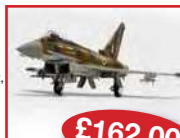
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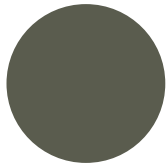
### THE ULTIMATE SPITFIRE

Considered by many to be the ultimate Spitfire, the F Mk.22 shared only a very passing resemblance to its early Spitfire ancestors. Equipped with a more powerful Griffon engine as well as a larger tail unit and cut-down rear fuselage, the F Mk.22 was the most powerful Spitfire to see service, as well as the most capable. Serving in only small numbers and too late for the Second World War, the F Mk.22 was the penultimate land based variant of the classic Spitfire design.

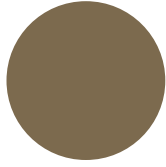


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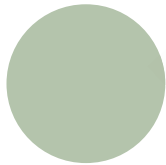




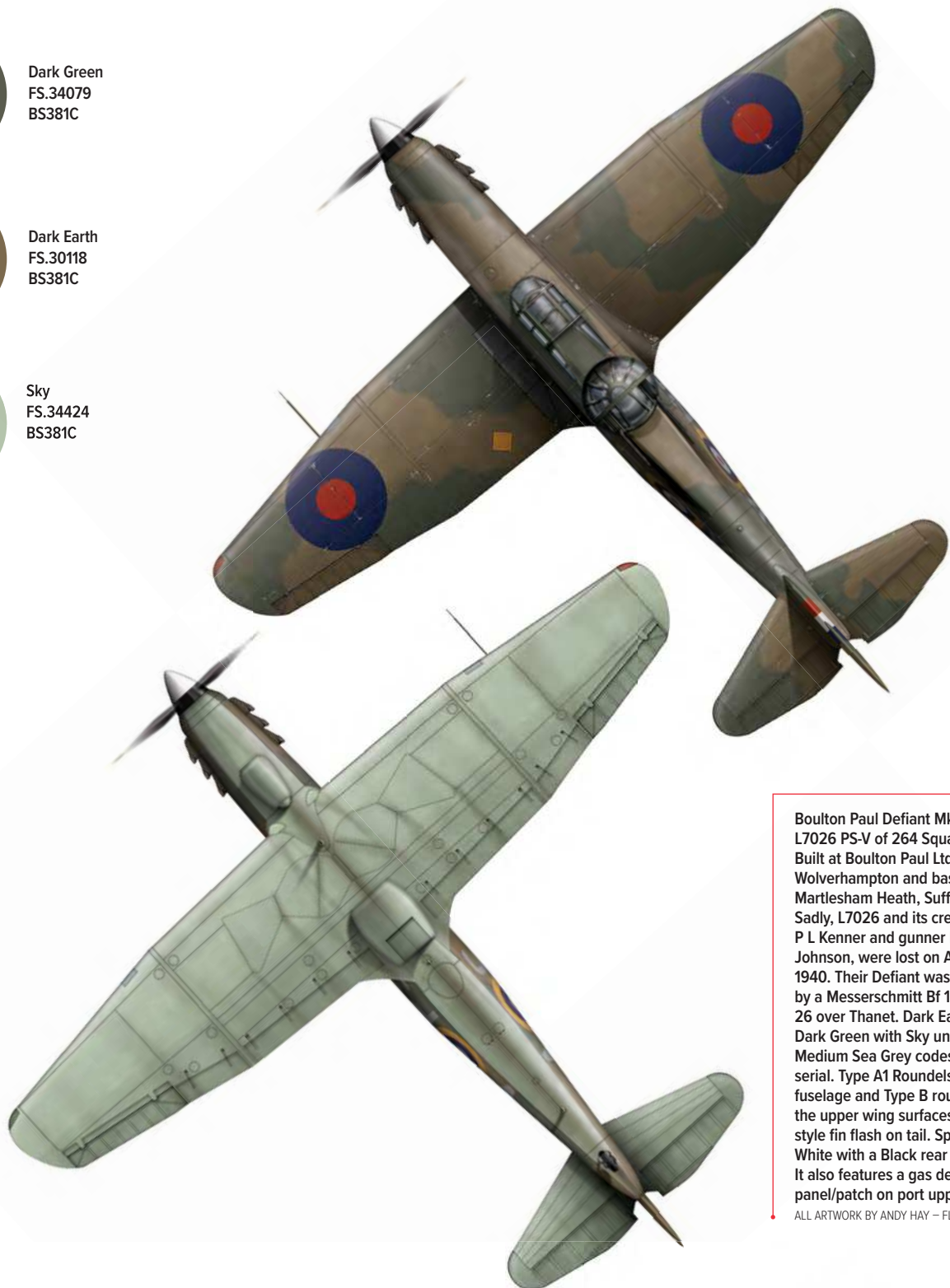
Dark Green  
FS.34079  
BS381C



Dark Earth  
FS.30118  
BS381C



Sky  
FS.34424  
BS381C



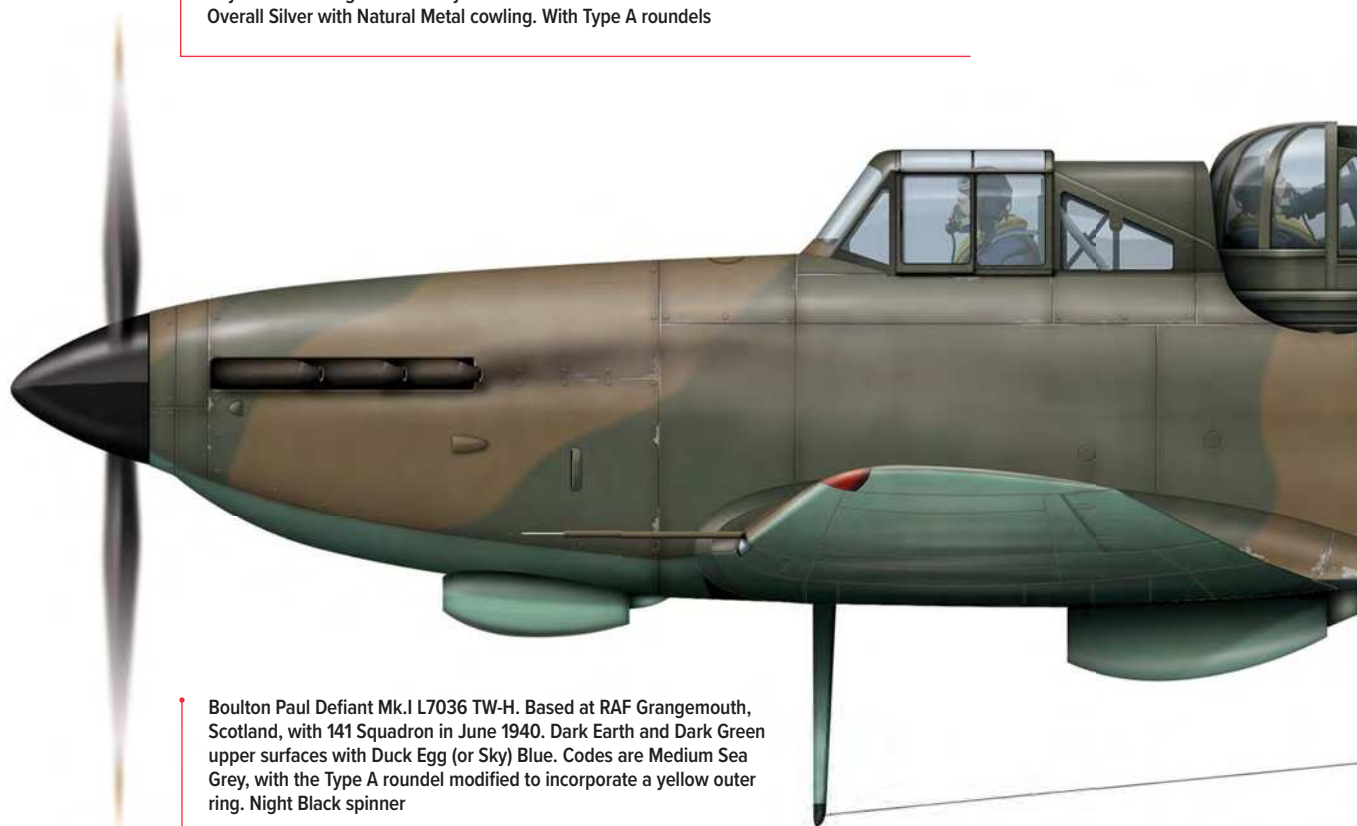
Boulton Paul Defiant Mk.I  
L7026 PS-V of 264 Squadron.  
Built at Boulton Paul Ltd in  
Wolverhampton and based at  
Martlesham Heath, Suffolk, 1940.  
Sadly, L7026 and its crew, Plt Off  
P L Kenner and gunner Plt Off C E  
Johnson, were lost on August 28,  
1940. Their Defiant was shot down  
by a Messerschmitt Bf 109 of JG  
26 over Thanet. Dark Earth and  
Dark Green with Sky undersides.  
Medium Sea Grey codes, Black  
serial. Type A1 Roundels on  
fuselage and Type B roundels on  
the upper wing surfaces only. Early  
style fin flash on tail. Spinner is  
White with a Black rear section.  
It also features a gas detection  
panel/patch on port upper wing

ALL ARTWORK BY ANDY HAY – FLYINGART





Boulton Paul Defiant (P.82) K8310, prototype. First flight August 11, 1937 from Wolverhampton in the hands of Boulton Paul's chief test pilot Cecil Feather. Powered by a 1,030hp Rolls-Royce Merlin I engine. It initially lacked a turret but is shown here when it was fitted in 1938/9. Overall Silver with Natural Metal cowling. With Type A roundels



Boulton Paul Defiant Mk.I L7036 TW-H. Based at RAF Grangemouth, Scotland, with 141 Squadron in June 1940. Dark Earth and Dark Green upper surfaces with Duck Egg (or Sky) Blue. Codes are Medium Sea Grey, with the Type A roundel modified to incorporate a yellow outer ring. Night Black spinner



Boulton Paul Defiant NF.I N1671 EW-D. Based at RAF Kirton-in-Lindsey, Lincolnshire, with 307 (Polish) Squadron in 1940. Finished in overall Special Night RDM2A (Sooty Black). Codes are non-standard style in Medium Sea Grey. Roundels were Type A1 on fuselage and Type B on the upper wings only. Shown here with the earlier type fin flash. Currently on display at the RAF Museum, it sports a later style fin flash. Of note here is the aft fuselage fairing shown lowered





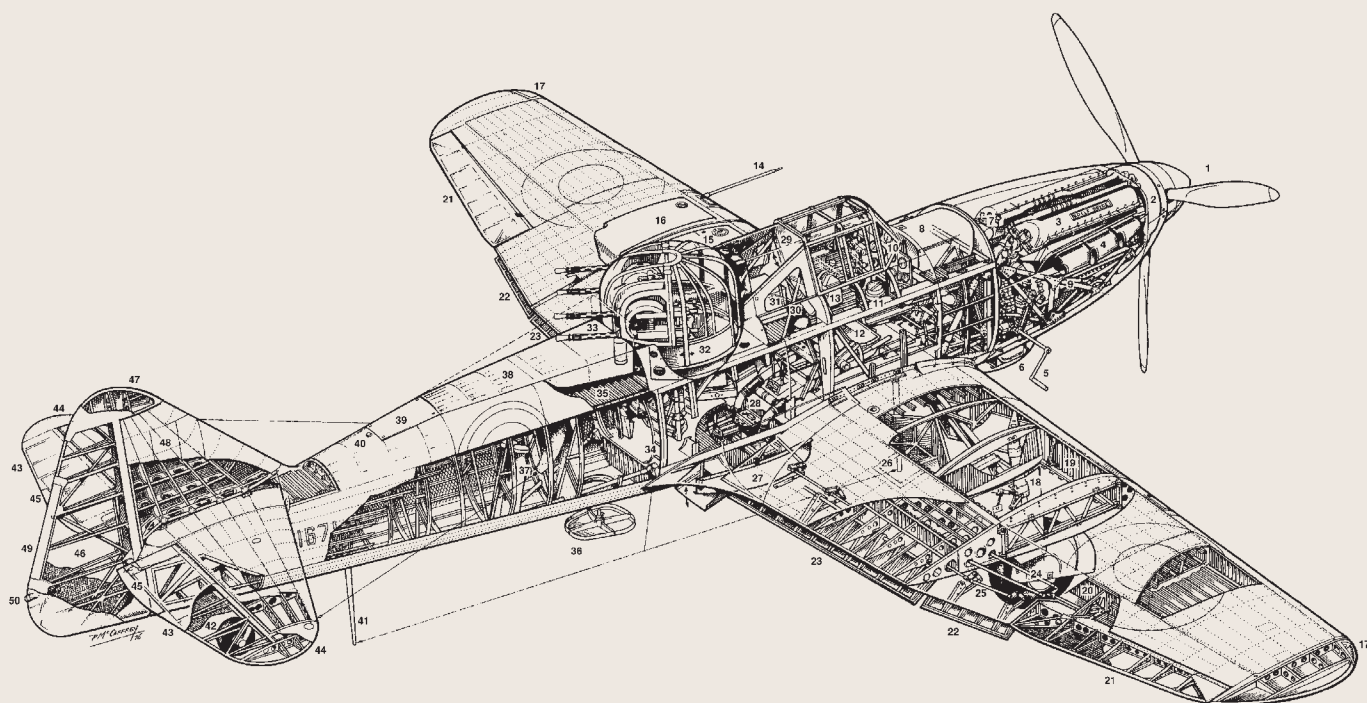
Boulton Paul Defiant ASR Mk.I T3997 AQ. Based at RAF Harrowbeer, Devon, with 276 (Air-Sea Rescue) Squadron in 1942. The ASR Mk.I was able to carry air-dropped M-type dinghies in a container under each wing (not illustrated here). Extra Dark Sea Grey and Dark Slate Grey upper surfaces with Sky undersides. Codes and spinner are Dull Red, roundels were Type C1 on fuselage and Type B on the upper wings and Type C under wings, with a standard tail flash



Boulton Paul Defiant NF.II AA436 DZ-V. Based at RAF Wittering, with 151 Squadron, in 1941. The NF.II was powered by a 1,280hp Rolls-Royce Merlin XX Engine and was fitted with the AI Mk.IV Airborne Interception Radar. Finished in overall Special Night RDM2A (Sooty Black). Codes and serial are in Dull Red, roundels were Type C1 on fuselage and Type B on the upper wings only, with standard fin flash

**Cutaway key**

- |    |   |    |   |
|----|---|----|---|
| 1  | Three-blade Rotol propeller                           | 27 | Radiator fairing  |
| 2  | Coolant header tank                                   | 28 | Coolant pipes   |
| 3  | Rolls-Royce Merlin III 1,030hp 12 cylinder Vee engine | 29 | Retractable forward fairing   |
| 4  | Exhaust manifold                                      | 30 | Forward fairing actuation ram   |
| 5  | Handle for engine cranking                            | 31 | Wireless transmitter/receiver   |
| 6  | Oil cooler intake                                     | 32 | Power-operated turret   |
| 7  | Hydraulic reservoir                                   | 33 | Four .303 Browning machine guns   |
| 8  | 10 Imp gal oil tank                                   | 34 | Forward/aft fuselage construction join  |
| 9  | Engine bearer   | 35 | Corrugated decking  |
| 10 | Instrument panel                                      | 36 | Access hatch  |
| 11 | Compass   | 37 | Flare chutes  |
| 12 | Pilot's seat  | 38 | Retractable rear fairing  |
| 13 | Throttle quadrant                                     | 39 | Ballast weight hatch  |
| 14 | Pitot head  | 40 | Dorsal navigation light   |
| 15 | Main fuel tank, 52 Imp gal (both sides)               | 41 | Rear ventral aerial in flight position (retracts upwards when undercarriage is lowered) |
| 16 | Auxiliary fuel tank (both sides) 27 Imp gal           | 42 | Tailwheel (non-retractable)   |
| 17 | Navigation light (both sides)                         | 43 | Elevator  |
| 18 | Undercarriage oleo leg                                | 44 | Elevator mass balance   |
| 19 | Mainplane front spar                                  | 45 | Elevator trim tab   |
| 20 | Mainplane rear spar                                   | 46 | Rudder  |
| 21 | Aileron   | 47 | Rudder mass balance   |
| 22 | Split flaps, outboard (both sides)                    | 48 | Fin   |
| 23 | Split flaps, inboard (both sides)                     | 49 | Rudder trim tab   |
| 24 | Aileron control rods                                  | 50 | Rear navigation light   |
| 25 | Flap control rods                                     |    |   |
| 26 | Forward ventral aerial mast                           |    |   |



Boulton Paul Defiant NF.I  
cutaway diagram KEY ARCHIVE



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Sqn Ldr Philip  
Hunter was 264's  
inspirational  
leader until his  
death in action on  
August 24, 1940

VIA ALEC BREW





# DEFYING THE ODDS



Boulton Paul's Defiant turned out to be a mediocre fighter but it nevertheless lived up to its name, as **Andrew Thomas** describes

When World War Two began in September 1939, Fighter Command had a new single-engined type about to enter service: the Defiant. Boulton Paul's creation was intended to supplement single-seat Hurricanes and Spitfires as 'bomber-destroyers', but events were to prove that, in modern warfare, the 'turret fighter' was a flawed concept.

No.264 Squadron was formed in November 1939 at Sutton Bridge, Lincolnshire, to introduce the Defiant, mainly with pilots fresh from training. At the end of March 1940, two flights of 264 were declared operational with the type and convoy patrols began. Under the leadership of Sqn Ldr Philip Hunter, tactics to exploit the strengths of the Defiant were developed. The arrival of Flt Lt George Skelton, who had previously been a test pilot with Boulton Paul, greatly

helped the process. A second squadron, 141 at Drem in Scotland, began receiving Defiants in April.

On Friday, May 10, the Germans thrust into France, Belgium and the Netherlands and, during the next two days, 264 Squadron flew uneventful convoy patrols. Early in the afternoon of the May 12 it began operations over Holland, when Hunter, leading 'A' Flight, ran into a formation of Ju 88s from 5/KG 30. His air gunner (AG), LAC Fred King, succeeded in shooting one down. Hunter described the 'bleeding' of the Defiant: "I could see my AG's bullets hitting the aircraft which finally crashed in a field at 14:15hrs."

Moments later, Flt Lt Nick 'Lanky' Cooke's gunner, Cpl Albert Lippert, accounted for another.

The following day, when George Skelton took 'B' Flight on a sortie over The Hague, they encountered Ju 87 dive-bombers and four were claimed before the Defiants

**ABOVE:** One of 264 Squadron's initial Defiants was L6969. It was shot down on May 13, 1940 with the loss of former Boulton Paul test pilot Flt Lt George Skelton VIA G PITCHFORK

were 'bounced' by Messerschmitt Bf 109s. Five Defiants were shot down – the first machine to fall was being flown by Plt Off Sam Thomas, who baled out. His gunner, LAC John Bromley, wasn't so fortunate and was killed.

Skelton also went down. Badly wounded, he became a prisoner of war. His gunner, Plt Off Jack Hatfield, baled out and eventually returned to 264, only to be killed over Dunkirk. The only aircraft to return was flown by Plt Off Des Kay.

## Dunkirk glory

The German blitzkrieg split the Allied front, forcing a hasty retreat towards the Channel coast. To help provide air cover, 264's Defiants deployed to Manston in

Kent on May 23. They flew two patrols that day and saw intermittent action over the next few weeks.

The epic evacuation from the Dunkirk beaches began on the May 26 and the following morning Philip Hunter led a patrol between Dunkirk and Calais when, at about 09:15hrs, they were attacked by Bf 109s. Four of the enemy were claimed – one falling to Sgt Ted Thorn and LAC Fred Barker, who were to become the most successful Defiant crew of the war. On a later patrol that day the unit encountered a dozen Heinkel He 111s of KG 51 inbound to attack the evacuation shipping. Sweeping in, the Defiants disrupted the raid, claiming three bombers shot down.

The next day, Sqn Ldr Hunter led ten Defiants from Manston. Over the Channel they were attacked by a large formation of Bf 109s and six enemy fighters were claimed. Two fell to Hunter's machine, making the CO the first Defiant 'ace'. Despite the loss of three aircraft, Hunter considered that, by using the correct tactics, a Defiant formation could be defended against single-seat fighter attack.

In the mid-afternoon of May 29, a dozen Defiants were once more in action off Dunkirk when several Bf 109s were claimed, before a large formation of Ju 87 'Stukas', with escorting Bf 110s, was

spotted near Calais. The 110s dived on the Defiants and a deadly battle developed – in the frantic melee, no fewer than six 110s were claimed destroyed.

Having returned to Manston, a little before 1900hrs Hunter led his men back over the beaches. They spotted several large formations of approaching Stukas, which dived when they caught sight of the Defiants. Hunter led his formation down to catch the Ju 87s at their most vulnerable, as they pulled out of their dives.

Hunter's gunner, LAC Fred King, sent one straight into the sea on fire, doubtless raising cheers from the troops waiting on the beaches. Many of the dive-bombers jettisoned their bombs, manoeuvring wildly in attempts to escape, but the Defiant gunners poured fire into the vulnerable bellies of the Stukas at close range. Flt Lt Cooke and Cpl Lippert claimed five, making Cooke the RAF's first 'ace in a day' of the war. Meanwhile, Plt Off 'Bull' Whitley's gunner, LAC Bob Turner, sent down three Stukas.

Other Stukas targeted the harbour and Hunter turned for them, again to catch them as they pulled out of their dives. More were shot out of the sky, as were several Ju 88s before an exhausted 264 Squadron turned for home.

It had been an outstanding day by any yardstick, with a total of 37 enemy aircraft credited as shot down, including 19 Stukas. In a confused fight, a considerable degree of over-claiming was



ABOVE: Flying Defiant N1535, Sqn Ldr Philip Hunter led 264 Squadron during late August 1940 AW HALL

inevitable, but it had nonetheless been 264's day. In addition to Cooke, Plt Offs Young, Welsh, Hackwood and Whitley and Sgt Ted Thorn had each claimed their fifth victories during the day.

No.264's next action came two days later, when a formation of He 111s under heavy escort was spotted approaching the French coast. Hunter headed toward the bombers, but Bf 109s from III/JG 26 dived to cover them. Despite their well-practised defensive circle, five Defiants were despatched but, in return, five Messerschmitts and six Heinkels were claimed.

BOTTOM: Defiant L7005, the aircraft flown by Flt Lt Nick Cooke, on May 29, 1940 ALEC BREW

**"The engine died, so we dodged between poles, crashed through the brush and landed comfortably on the verge"**

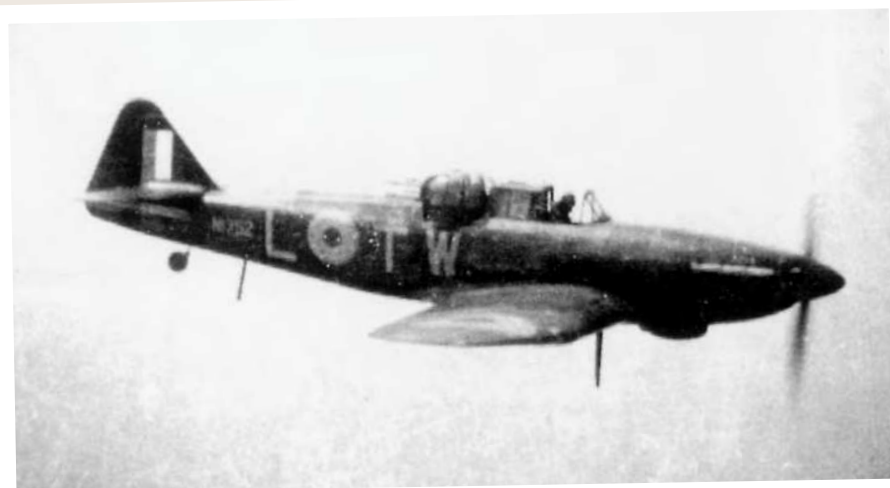






**ABOVE:** Defiant L6977 was one of five from 'B' Flight of 264 Squadron shot down by Messerschmitt Bf 109s on May 13, 1940 T KOPANSKI

**LEFT:** Defiant N1752 of 141 Squadron DR M WHITNALL



Almost immediately King – Hunter's gunner – hit one of the enemy, which spun away into the sea. When the survivors reassembled at Manston it was apparent that Flt Lt Nick Cooke and Cpl Albert Lippert were missing – they had been credited with ten victories in just 20 days. The squadron then took a break to rebuild.

### Trauma over Kent

With Luftwaffe attacks intensifying in mid-July, 141 Squadron moved south to West Malling, Kent, and established an advanced base at Hawkinge, also in Kent. There on July 19, a dozen aircraft stood by to cover coastal convoys. At 12:30hrs, nine of 141's Defiants scrambled to intercept a Stuka raid off Folkestone and, on that fine, cloudless afternoon, headed to disaster.

They were attacked by about 20 Bf 109s of III/JG 51 led by Hptn Hannes Trautloft, who recalled: "I aimed at the right Defiant and the gunner's tracer streamed towards

me. My guns fired. Pieces of the Defiant broke off and came hurtling towards me. I saw a thin trail of smoke and then just a fiery ball." So began the carnage and, in less than a minute, five Defiants had been shot down and another had crash-landed. Shattered, 141 returned to Prestwick in Scotland to regroup.

Towards the end of August, 264 returned to the cauldron of the south-east, establishing a forward base at Manston. Early on August 24, three sections took off as the airfield was attacked by Ju 88s and three of the German bombers were caught and shot down as they flattened out from their dives. However, a trio of Defiants was lost, one flown by the unit's inspirational commander, Philip Hunter, who was last seen chasing the bombers towards France.

The survivors landed at Hornchurch, Essex, in the mid-afternoon, but were scrambled again to engage another incoming raid. The order came too late and bombs were actually falling as seven

Defiants managed to take off. Two Ju 88s were shot down, one by Plt Off Terry Welsh. Plt Off Michael Young destroyed a solitary He 111 in an overtaking attack, but it had been a tough day.

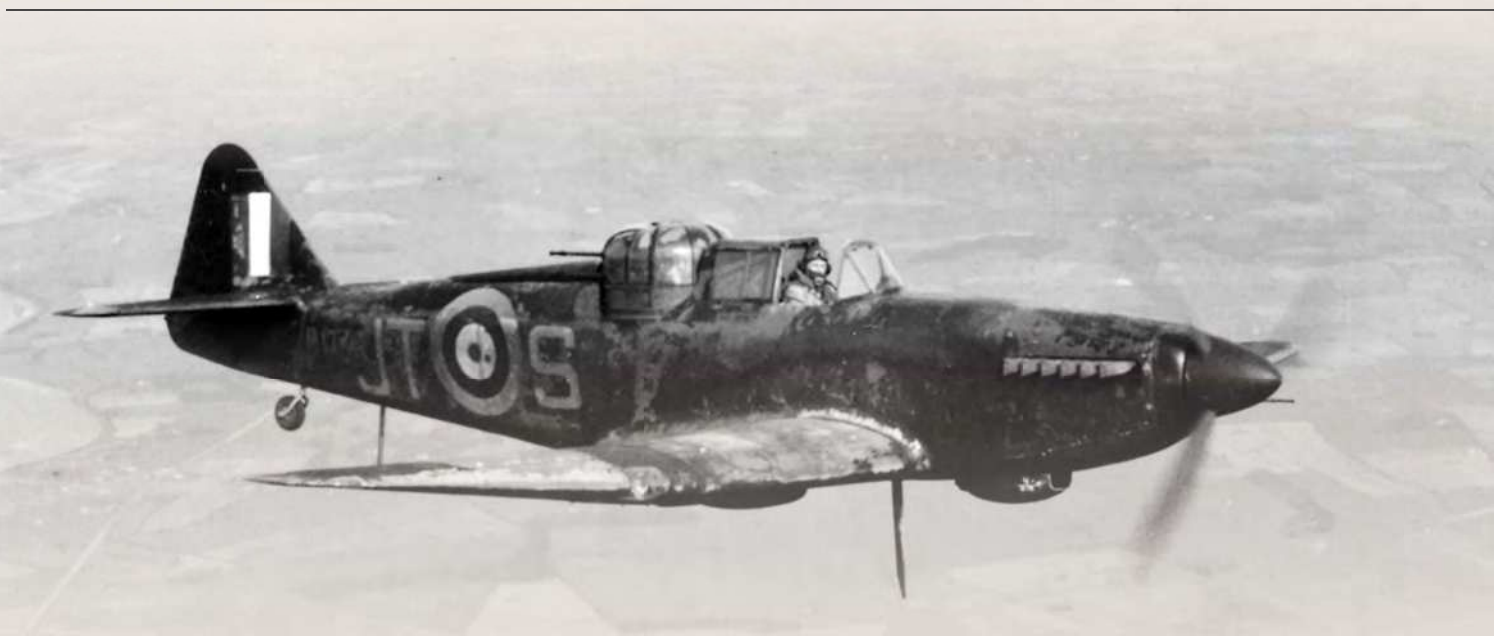
New aircraft and crews arrived, and just before lunch on August 26 the squadron was ordered to intercept a raid over Kent at 12,000ft between Herne Bay and Deal, but they were attacked by the escorting Messerschmitts. Having destroyed a Dornier, Flt Lt Banham's aircraft was set on fire. Newcomer Plt Off Desmond Hughes had a successful start by downing two of the bombers with converging attacks.

Having also claimed a brace of Dorniers, Sgt Ted Thorn's Defiant was hit and was forced to make an emergency landing. The damaged Defiant must have seemed an easy target and soon a 109 closed in to finish them off. The British crew had different ideas and the irrepressible Fred Barker still had bullets in his guns and shot the German down.

Twenty He 111s under heavy escort were encountered near Folkestone early on August 28 and several of 264's Defiants went down. Plt Off Jim Bailey saw off a Heinkel, but force-landed after being attacked: "The engine died, so we dodged between poles, crashed through the brush and landed comfortably on the verge." No.264's part in the Battle of Britain was over.

### The Blitz

At the end of August, the Defiant's role was officially changed to night-fighting. In



**ABOVE:** The Defiants of Woodvale-based 256 Squadron saw their first action during the latter part of the Blitz. Illustrated is N1744 D H WOOD

**BELOW:** Cranage-based 96 Squadron received Defiants in early 1941. Pictured is T3954 flown by Fg Off Klobouznik ZDENEK HURT

mid-September, 'B' Flight of 141 Squadron was reassigned to Biggin Hill as part of London's defences, with 'A' Flight later settling at Gatwick.

The unit was soon in action to defend the capital and, on the night of September 16, Plt Off John Waddingham and Sgt Alf Cumbers attacked two He 111s off the south coast. They were credited with one destroyed and the other as a 'probable'. These were 141's first night victories. As the German nocturnal offensive increased, more night-fighter squadrons were formed, many with Defiants. Among them was the Polish-manned 307 Squadron – one of its aircraft, N1671, now resides in the RAF Museum Midlands. On October 14, the Luftwaffe mounted

its heaviest night attack to date, when 380 bombers struck London. No.264 Squadron had also switched to night-fighting and Plt Off Desmond Hughes and Sgt Fred Gash were in action. Plt Off Hughes later said: "It was a bright, moonlit night. Suddenly, out of the corner of my eye I saw something move across the stars out to my left. I slid alongside, below and to the right of him. Then we saw the distinctive wing and tail shape of a Heinkel – there was no mistaking it. Fred fired straight into the starboard engine. He got off two or three bursts. The engine burst into flames. Then the Heinkel rolled on its back, went down steeply and crashed into a field near Brentwood."

It was not only London that suffered. On the night of November 14, the centre of Coventry was destroyed when more than 500 bombers targeted the city. Little over a week later, two new Defiant squadrons formed – 256 at Catterick and 255 at Kirton-in-Lindsey – and began to prepare for operations.

During the long winter nights, having to rely on visual detection meant the Defiants were always going to be up against it. Plt Off Ben Benson of 141 ruefully commented: "We had to fly with the cockpit hood open without any indication as to the height of the raiders. The nearest we got to one was when we nearly had a head-on collision with a Heinkel going in the opposite direction."

Despite his misgivings, Benson claimed 141's next victory when his gunner, Sgt Leonard Blain, shot down a He 111P of 3/KG 55 flown by Uffz Bruno Zimmermann over the Sussex coast on the evening of December 22.

### Nocturnal challenges

Several former Hurricane-equipped units also switched to night-fighting and were fully or partially equipped with Defiants. Among them was 96 Squadron at Cranage, Cheshire, for defence of the north-west. Another unit that began re-equipping at the start of 1941 was 151 Squadron at Wittering, Northants. One of its air gunners was Plt Off Syd Carlin, a 50-year-old veteran of World War One.

With raids on Liverpool, Bristol and Cardiff in 1941 bringing a lot of 'trade', successes were nevertheless hard to come by. No.151 achieved its first on the night of February 4, when Sgt Henry Bodien shot down a Do 17Z of 7/KG 2. Three hundred bombers headed for Liverpool on the night of March 12/13 under a full moon – conditions that allowed the Defiant units an opportunity to hit the attackers hard. In the ensuing battles over the south-west, several of the bombers were shot down. However, the fighting wasn't one-sided – Fg Off Veseley of 96 Squadron was hit by return fire and wounded in the chest.





That night, the Poles of 307 Squadron made their combat debut when Sgts Franciszek Janowiak and Jerzy Karais attacked a Heinkel over Ruthin in North Wales and were credited with a 'probable'. Janowiak recalled: "I saw the bullets of my air gunner entering the enemy aircraft fuselage. I consider that the He 111 was damaged." Ten days later, Janowiak and Sgt Lipinski intercepted a Heinkel over Bristol and shot it down near Sherborne, the unit's first 'confirmed'.

At Squires Gate near Blackpool, 256 Squadron became operational, with Flt Lt Christopher Deansley flying the first patrol over Merseyside on April 1. A week later, 20-year-old Flt Lt Don West shot down a Ju 88A of II/KG 54 over Liverpool, marking the unit's first victory with the Defiant. The following night, when Coventry was again the target, Defiants of 151 and 264 hit a 'purple patch', claiming six Heinkels destroyed. One was flown by Lt Julius Tengler of 9/KG 26, who survived and remembered: "Suddenly we were surprised by a burst of gunfire from behind which smashed the windows of the cockpit and wrecked one engine. Immediately the starboard engine caught fire." His nemesis was 264's 'Boss', Sqn Ldr 'Scruffy' Saunders.

### Swansong

The intensity of the German raids increased in the improving weather and Defiants had more success on the night of April 9 when Birmingham was attacked. One German bomber fell to 151's Flt Lt Des McMullen, who was circling the fires when his gunner saw an He 111 below and, closing to point-blank range, fired a three-second burst from below. Over the Midlands that night, 256's Flt Lt Deansley, with Sgt Jack Scott, shot down an He 111H-5 of 8/KG 26. Deansley later recounted: "I found a formation of three Heinkel 111s in bright moonlight above cloud and easily set one on fire."

During April, the Luftwaffe launched more than 5,000 bombing sorties in 16 major raids, though the improved defences took a high toll, with 58 bombers lost. The tempo continued into early May, with Liverpool being the target.

On May 5, 255 Squadron finally achieved its first confirmed victory when its CO, Sqn Ldr Rod Smith, with Plt Off Eric Farnes, caught a Junkers Ju 88 over Donna Nook on the Lincolnshire coast and shot it down. Smith said he saw "a brilliant firework display on the side of both engines and the pilot's cockpit. I saw two parachutes leave the enemy, by the light

of the flames, and the aircraft went into a vertical dive, breaking up into several burning parts before it hit the sea."

The Defiants claimed further scalps two nights later. Although not evident at the time, the Blitz was reaching its crescendo, with Liverpool again the focus of the attack on the night of the May 7/8. Flying from Woodvale, 256 had its best night, bringing down three Heinkels, while other bombers fell to 96's guns.

Within a few weeks, several units began receiving the more effective Bristol Beaufighter, while new squadrons continued to form with surplus Defiants as interim equipment. Among them were 125 Squadron, the Canadian-manned 409 and 410 and 'Aussies' of 456. Operations continued relatively uneventfully into

1942. During a sortie in a clear sky at dusk on February 19, Flt Lt 'Blackie' Smith caught a Do 217 off Cromer and shot it down to claim his sixth victory.

By late spring only 264 Squadron, the original Defiant unit, remained fully equipped and operational. By this time, some aircraft were fitted with the rudimentary Air Interception Mk.IV radar. However, it was not particularly effective and the unit's only success with it came in the early hours of April 18, when Fg Off A I Stuart, with Fg Off M H Maggs as his gunner, shot down an He 111. It was the Defiant's final victory. **FP**

**BELOW:** One of the last Defiant victories was achieved by Sqn Ldr 'Blackie' Smith and his gunner, F/Sgt A Beale, on the night of February 19, 1942 VIA A THOMAS

**"We saw the distinctive wing and tail shape of a Heinkel – there was no mistaking it"**





# Ace of Spades

Nine Messerschmitt Bf 109E-equipped Jagdgeschwaders would take part in the Battle of Britain, each of which was made up of nine staffels. **Chris Goss** relates the story of one of these – 1 Staffel/Jagdgeschwader 53

RIGHT: Oblt Hans Ohly's Bf 109E-4 'White 7' is prepared for its next sortie across the Channel at Etaples post-August 25, 1940. Note the airframe carries the Hakenkreuz and boasts four victory bars on the tail

ALL IMAGES CHRIS GOSS





**A**s Europe spiralled into political chaos and the shadow of another war grew on the horizon during the summer of 1939, some of the Luftwaffe's pilots were no strangers to combat, having honed their skills in Spain as it tore itself apart in a civil war that had lasted three years from July 1936.

Commanded by Legion Condor ace Hptm Werner Mölders, 1 Staffel (unit) / Jagdgeschwader (fighter wing) 53 – 1./JG 53 – scored the wing's first 'kill' of what would become World War Two on September 9, 1939; Ofw Walter Grimmling, another Spanish Civil War veteran, downing a reconnoitring Bloch MB.131.

On strength with Groupe Aérien de Reconnaissance (reconnaissance group) I/14, the twin-engine aeroplane crashed to the northeast of the German city of Saarbrücken killing two of its crews; the third was wounded and quickly captured. As Mölders turned for home in his '109 – carrying JG 53's famous 'Pik As' – or 'Ace of Spades' – emblem, the unit would soon make a reputation for itself.

The following day, Grimmling and Uffz Heinrich Bezner claimed a pair of ANF Les Mureaux 115s. For their actions, both pilots were awarded the Eisernes Kreuz 2 Klasse (Iron Cross Second Class) – the

first such awards for the Geschwader. However, less than a year later, both pilots had been killed on operations.

By the end of the so-called Phoney War (the period between September 1939 and April 1940 when there was little fighting) 1./JG 53 had lost one pilot in an accident, while another had been wounded in combat. The six-week Battle of France would be busier for the Staffel – then commanded by another Legion Condor pilot Oblt Hans-Karl Mayer – with pilots claiming 23 victories between May 10 and June 22, 1940. But it came at a cost... two pilots, including Ofw Walter Grimmling, were killed in action, another two captured and two more injured.

On June 23, 1940, the Staffel flew southwest from Charleville to Rennes in western France, where it waited for the Battle of Britain to begin.

### **The Battle begins**

The first Englandeinsatz – or 'England mission' – was scheduled for August 2, but this was cancelled due to weather, as were those on August 8 and 9. As such, the first Englandeinsatz finally came on August 11. Having flown from Rennes to Cherbourg-East, the Staffel took off on an escort mission at 1000hrs and landed some 80 minutes later without any claims or victories. While the relief of getting

through the first mission without loss was felt across the unit, so was the envy at the successes of the rest of the Geschwader with I Gruppe (group) claiming two Spitfires, II Gruppe a Spitfire and a Blenheim and III Gruppe five Spitfires. However, the following day would be far more successful for 1./JG 53.

The assignment that day was to escort Junkers Ju 88s tasked with hitting Portsmouth Harbour and the radar station at Ventnor on the Isle of Wight. Taking off at 1030hrs, 1 Staffel pushed out in front to begin a Freie Jagd – or fighter sweep – around the island. At 1220hrs, Hans-Karl Mayer spotted a trio of Hawker Hurricanes attacking a Messerschmitt Bf 110. However, before he could get into a favourable firing position, the RAF fighters had succeeded in setting the '110 ablaze. Immediately afterwards, 1 Staffel bounced the Hurricanes. With Mayer opening fire on the unsuspecting fighter to the right from close range, its pilot did not have a chance as his fighter burst into flames and plunged into the English Channel below.

At the same time, Mayer's wingman, Uffz Heinrich Rühl, attacked the left-hand Hurricane. Firing 200 rounds of 7.92mm ammunition at his quarry, which tried desperately to get away from him, the Hurricane soon dropped into the





**“With a recent change in Luftwaffe tactics forcing the fighters to stick close to the bombers, they were easy pickings for the RAF, who bounced them”**

**ABOVE:** Maj Albert Blumensaat (centre) Gruppen Kommandeur I./JG 53 briefs officers at Rennes in northwestern France sometime in August 1940. From left they are: unknown, Hptm Rolf Pingel (2./JG 53), Hptm Hans-Karl Mayer (1./JG 53 died October 17, 1940), Lt Gebhart Dittmar (Stab I./JG 53 died September 6, 1940), Blumensaat, Lt Alfred Zeis (1./JG 53 POW October 5, 1940), Lt Ernst-Albrecht Schulz (1./JG 53), unknown and Oblt Hans Ohly (1./JG 53)

Channel – taking its pilot with it. The final Hurricane received the undivided attention of Hans-Karl Mayer, but this combat was not so one-sided, as the RAF pilot managed to damage Mayer's fighter. With a final burst of fire from Mayer, the Hurricane was last seen attempting to head for the safety of the coast with dense black smoke pouring out of it, before it hit the water in a shallow dive and sank.

Numerous Hurricanes were lost this day making it hard to say for certain who the victims of Mayer and Rühl were, although it is possible that they were Plt Off John Harrison, Flt Lt Wilhelm Pankratz and Sgt Josef Kwiecinski of 145 Squadron. 1 Staffel/Jagdgeschwader 53 claimed one more RAF fighter when Uffz Heinrich Kopperschlager downed a Spitfire off the Isle of Wight.

While all of 1./JG 53 returned safely, III./JG 53 lost its former Legion Condor Kommandeur Hptm Harro Harder in the ensuing chaos. To make matters worse, during a search for him later that afternoon, Hptm Wolf-Dietrich Wilcke of 7./JG 53 suffered an engine failure and was forced to ditch. Rescued later that evening, he took command of III./JG 53 the following day.

On August 13, 1./JG 53 claimed another four fighters, before bad weather prevented any operations until the late afternoon of August 15. Thrown into action again, the Staffel downed six barrage balloons while Hans-Karl Mayer claimed his 13th 'kill' when he shot down a Hurricane near Salisbury. So far, operations over England were without loss... but that was about to change.

### Home fires

If trying to survive in the skies of a foreign country was not hard enough, JG 53 was also fighting its own battles at home. While the unit was making a reputation for itself during the Battle of Britain, according to an RAF Air Ministry

intelligence summary, Reichsmarschall Hermann Göring, then Oberbefehlshaber der Luftwaffe (supreme commander of the air force), was reportedly informed that JG 53's Geschwaderkommodore (commanding officer) Maj Hans-Jürgen von Cramon-Taubadel's wife was Jewish. As a result, Göring ordered JG 53 to remove the 'Pik As' insignia from its machines and replace them with a red stripe around the engine cowling as a mark of shame.

In protest, the unit stripped the Hakenkreuz off the tails of its '109s. With Oblt Gunther von Maltzahn arriving to take command of JG 53 soon after, the 'Pik As' emblem began to reappear.

There was little activity between August 18-23. But on an escort mission to Portsmouth on August 24, Hans-Karl Mayer badly damaged a Spitfire of 609 Squadron flown by American Plt Off Andy Mamedoff. Hit by a 20mm round – which entered the rear fuselage, passed through the radio and almost penetrated the armour plating behind his seat – Mamedoff nursed his severely damaged 'Spit' back home. With the tailwheel



collapsing on landing, closer inspection of the airframe revealed another 20mm round had shredded half the starboard elevator, while the airframe was peppered with bullet holes. Mamedoff (one of just 11 American pilots to fight in the Battle of Britain) was lucky to get away with just a bruised back.

A second claim was filed by Lt Alfred Zeis who noted 'his' Spitfire – flown by Plt Off Janusz 'Jan' Żurkowski of 234 Squadron, the same Jan Żurkowski of later Gloster test pilot fame – crashed on the eastern corner of the Isle of Wight. Żurkowski heard a very loud bang and lost all control of the elevators and rudder before his Spit was flung into a flat spin. Managing to abandon his stricken machine, he held off opening his parachute as, on looking skywards, he saw, to his horror, his aircraft cartwheeling above him. Getting closer to the ground, he had no alternative but to pull the ripcord. Landing safely, his Spitfire – much to his relief – dropped belly-down alongside him in the same field. Again, the Staffel returned home without casualties.

August 25, 1940, would see the Staffel's first loss of the Battle of Britain.

Tasked with an escort mission to Portland and although 1./JG 53 claimed seven Hurricanes, for new arrival Gefr Josef Bröker it would be his first and last mission.



**ABOVE:** Seen here posing with Bf 109E-1 'White 2' while holding the rank of oberleutnant during the final days of the Battle of France, Staffelführer of 1./JG 53 Hans-Karl Mayer was appointed Gruppenkommandeur at the start of September 1940



Flying as Hans-Karl Mayer's wingman, Bröker became separated in the ensuing chaos, and was then attacked first by Plt Off Walter Beaumont of 152 Squadron, then Sgt Reg Llewellyn of 213 Squadron and finally by 87 Squadron's Plt Off Roland 'Bee' Beaumont (of later test pilot fame – including becoming the first British pilot to exceed Mach 1 in a British aircraft in level flight).

Though Bröker crash-landed just to the north of Weymouth in Dorset, he was uninjured, but on attempting to set his fighter on fire, he set himself alight. He was badly burnt, but survived.

The following day, 1./JG 53 was back in action over Portsmouth, where Hans-Karl Mayer claimed a pair Spitfires – one of which was flown by Sgt Cyril Babbage of 602 Squadron – taking his score to 17. A third victory was claimed by Alfred Zeis. But these 'kills' took their toll. During the battle, Fw Heinrich Bezner's fighter suffered an engine failure and was last seen ditching into the sea. Nearly a month later, his body washed ashore near the French coastal town of Boulogne, by which time 1./JG 53 had moved to Montreuil-Neuville in the Pas de Calais in preparation for the final skirmishes of the campaign.

## Beginning of the end

Personnel of 1./JG 53 moved eastwards on August 28, 1940 and apart from shooting down barrage balloons over Dover and in the Thames Estuary on the last day of the month, victories and casualties remained unchanged. At the start of September 1940, Hans-Karl Mayer was appointed Gruppenkommandeur (group commander) 1./JG 53, while command of 1. Staffel was passed to Oblt Hans Ohly.

However, on Mayer's last mission as Staffelführer on September 2, Uffz



**TOP:** Gefr Josef Bröker with his Bf 109E-1 'White 15' – the same machine he was flying when shot down on August 25, 1940. Note, the handle for the type's mechanical hand-crank starter is visible

**ABOVE:** Oblt Ignaz Prestelle takes a moment between sorties mid-1940 while serving with 2./JG 53. A veteran of the Spanish Civil War, by the time he was killed in action over the Eastern Front on May 4, 1942, he was credited with 22 'kills' – eight of which were claimed during the Battle of Britain

Werner Karl was shot down by Fg Off Alex Trueman of 253 Squadron and Sgt James Harry 'Ginger' Lacey of 501 Squadron and taken prisoner; Uffz Heinrich Rühl ditched in the Channel during that same mission, but was later rescued none the worse for wear.

The week that followed was busy for 1./JG 53 – but little of note occurred. On September 3, Hans-Karl Mayer was awarded the Ritterkreuz (Knight's Cross of the Iron Cross) – three days later he celebrated this by shooting down his 18th aircraft.

The next day of note for 1./JG 53 was September 9, 1940, when three pilots each claimed a Hurricane – but Fw Heinrich Höhnisch was not so lucky. Having

spotted six Spitfires coming out of the sun, he opened his throttle and tried to draw level and above the flight (known as a Schwarm in Luftwaffe terminology) led by Hans Ohly with the intention of breaking up the Spits' attack.

Thinking he had succeeded, he was greeted with a hail of fire as rounds from the British machines rattled his fighter before it exploded in a mass of flames. Later describing that "it felt as if his face was being scorched by a blowlamp", Höhnisch struggled to get free from the blazing inferno. Eventually succeeding in throwing off the canopy roof, he released his seat straps and fell out of the burning '109 at about 22,000ft.

It was only on opening his parachute that he realised he had severe burns on his face and hands and that he had been hit by a bullet in his right leg. On landing, he was quickly captured.

The days that followed were quieter – apart from September 12 when Lt Alfred Zeis was optimistically credited with a Blenheim from either 59 or 235 Squadron.

However, there was major action on September 15, when the Luftwaffe launched its largest and most concentrated attack against London in the hope of drawing out the RAF into a

battle of annihilation. Having moved to Étaples on France's northern coast earlier that morning, the Staffel took off to escort bombers attacking London.

But the omens were not good – Hans Ohly was forced to turn back when his radio failed. With leadership of the Staffel passed to former Legion Condor pilot Ofw Alfred Müller mid-air, the Bf 109s of 1./JG 53 pressed on. With a recent change in Luftwaffe tactics forcing the fighters to stick close to the bombers, they were easy pickings for the RAF, who bounced them.

One of the first casualties was Müller who, with a wounded arm and damaged fighter, turned back only to end up ditching in the Channel; surviving, he was captured.

The bounce also separated Fw Herbert Tzschoppe from his wingman. Running for home, he was 'stalked' by Fg Off Tony Lovell of 41 Squadron who attacked the fleeing machine. Setting the '109 alight, it exploded. Tzschoppe, who was thrown out of the flaming wreck, was lucky to get his parachute open.

The rest of 1./JG 53 did not fare well either – three pilots were killed in action, one was captured while another managed to limp his damaged machine back to France, where he crash-landed.

That said, four RAF fighters were claimed by I Gruppe – including Gruppenkommandeur Hans-Karl Mayer and Uffz Willi Ghesla of 1./JG 53. A second mission that day saw no losses, but Mayer 'bagged' what would transpire to be his 22nd and final 'kill', while Uffz Heinrich Rühl and Uffz Heinrich Kopperschläger of 1./JG 53 each claimed a Spitfire. Though they were not to know it, Rühl's victory would be 1./JG 53's last over England.



## Final shots

The days of massed daylight bomber attacks during the Battle of Britain began to wane but concurrently, Jabo – fighter bomber sorties – increased, with one Staffel per Gruppe being designated a Jabostaffel. For 1./JG 53 this would be Oblt Walter Rupp's 3./JG 53.

Jagdgeschwader 53's first Jabo mission took place on October 2, 1940 – escorted by the '109s of 1./JG 53, they had little to report on returning home.

However, III./JG 53 lost the Gruppen adjutant and three pilots from Jabostaffel 8./JG 53, including its Staffelführer. The next action came three days later, with the Staffel tasked with another Jabo escort. However, 1./JG 53 would lose Fw Willi Ghesla and Lt Alfred Zeis to RAF fighters. While the former crash-landed, the latter baled out; both pilots were captured.

With a lull in operations, it was October 17, 1940, before 1./JG 53 was back in action. As it transpired, it would be a black day for the 'Ace of Spades'.



**ABOVE:** Hptm Hans-Karl Mayer (left) and Lt Alfred Zeis pose for a photograph while sightseeing in Paris during July 1940. Both fliers were shot down on October 5 that year while conducting a Jabo escort mission. Note, Mayer wears his Spanish Cross in Gold with Swords, for service during the Spanish Civil War

**RIGHT:** On August 15, 1940, Plt Off Richard Hardy of 234 Squadron was forced to land at Cherbourg-East where, wounded, he was taken prisoner. At the time JG 53 was forward deployed to the airfield







a formation of Me 109s. I attacked the rearmost of four enemy aircraft slightly apart from the main formation. I opened fire at approximately 100yds and closed in. Enemy aircraft became enveloped in black smoke and appeared to be out of control. About 10,000ft, enemy aircraft straightened out and kept on diving, doing gentle turns.

"We went below cloud almost to sea level where enemy aircraft dived into the sea."

Ten days later, Mayer's body was washed ashore; he was buried at RAF Hawkinge in Kent, where he still lies today.

The remainder of the Battle of Britain was an anti-climax for 1./JG 53. No combats were fought, and no victories were claimed.

In fact the remainder of the year was quiet until December 2, 1940, when on conducting a Freie Jagd over the Channel, Lt Siegfried Fischer – who had only recently moved to 1 Staffel from 3./JG 53 – was shot down and killed off Dungeness by Sqn Ldr 'Sailor' Malan of 74 Squadron. With Fähnrich Wolfgang Hauffe's '109 also damaged in the melee with 74 Squadron, he was forced to ditch in the murky waters below, but he was quickly rescued.

Seventeen days later and after few operational flights thanks to the winter

**LEFT:** Messerschmitt Bf 109E-1 'White 15' undergoes maintenance at what is thought to be Rennes in France sometime mid-1940. This is the same machine Gefr Josef 'Jupp' Bröker was flying when downed on August 25, 1940

**BELOW:** Hptm Hans-Karl Mayer inspects the victory bars adorning his machine – Bf 109E-4 'White 8' –on or just after August 26, 1940. Less than two months later, Mayer was killed in action

weather, 1./JG 53 returned to Germany to rest and convert to the Bf 109F. However, six days prior, 1./JG 53 had suffered its final casualty of 1940 when on returning from a Jabo escort mission, Uffz Rudi Müller – who had joined 1./JG 53 in October 1940 – was seen to peel away and dive into cloud.

With the remainder of the Staffel chasing him to find out what was happening, all they could see was a green patch on the surface of the Channel.

It would appear that the Staffel's final loss did not fall to the guns of the RAF, but more probably to ice. It was a sombre ending for 1./JG 53's battle over Britain.

Many who survived 1940 would be lucky to see the war out; the Geschwader was one of the most effective during the campaign, claiming 258 'kills' for the loss of 51 pilots either killed or taken prisoner. <sup>42</sup>

On the second Jabo mission of the day, Oblt Walter Rupp's fighter was damaged in combat.

As he crash-landed his stricken machine at RAF Manston in Kent, the remainder of the Gruppe was fighting for its life. As such, it is thought that Hans-Karl Mayer, who had just returned from leave, took off in a brand-new Bf 109E-7 to help. What exactly happened next can be explained by the combat report filed by Fg Off Desmond McMullen of 222 Squadron: "The squadron leader sighted

**"Immediately afterwards, 1 Staffel bounced the Hurricanes"**





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Six Hurricane Mk Is of 73 Squadron over France, while operating as part of the Advanced Air Striking Force during 1939-1940. Soon, the type would face the full might of the Luftwaffe in the Battle of Britain KEY COLLECTION




**F**orever overshadowed by the (arguably) more glamorous Spitfire, anyone with even a basic understanding of the Battle of Britain knows full well that it was the Hawker Hurricane that contributed most to this country's finest hour. A derivative of one of Hawker's 1930s biplanes, the Fury, it was a case of the right aircraft coming along at the right time.

Unlike its metal-skinned, thinner winged counterpart the Spitfire,

the similarly eight-gunned, Merlin-powered Hurricane's wood and fabric construction was still rooted in the past, which actually proved to be a major plus for it out in the field.

The Hurricane could absorb a surprising amount of battle damage and still remain flyable. A bullet might easily pass through the fuselage and exit without causing any damage other than a hole in the fabric. A canvas patch could be hastily applied over the

hole and the aircraft was ready to return to flight.

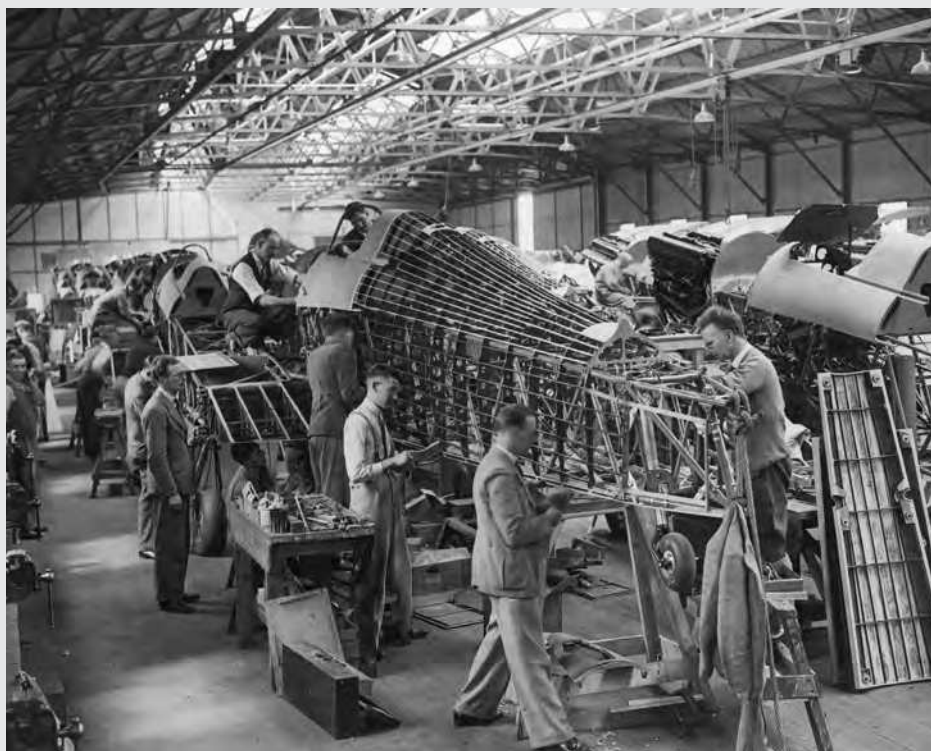
A total of 1,715 Hurricanes were operational with Fighter Command during the summer of 1940, and having already proven its worth in the Battle of France, the Hurricane was a popular aircraft with all who flew it and accounted for four-fifths of the enemy aircraft brought down in the battle. Without the Hawker Hurricane, you would not be reading these words today. 





ABOVE: Hawker Hurricane prototype, first flight November 6, 1935 KEY COLLECTION

RIGHT: Shirts, ties and tweed at the Hurricane assembly line KEY COLLECTION



BELOW: The first production Hurricane, L1547, made its initial flight on October 12, 1937, when Philip Lucas took it up from Brooklands. The name 'Hurricane' had been made official on June 26, 1936





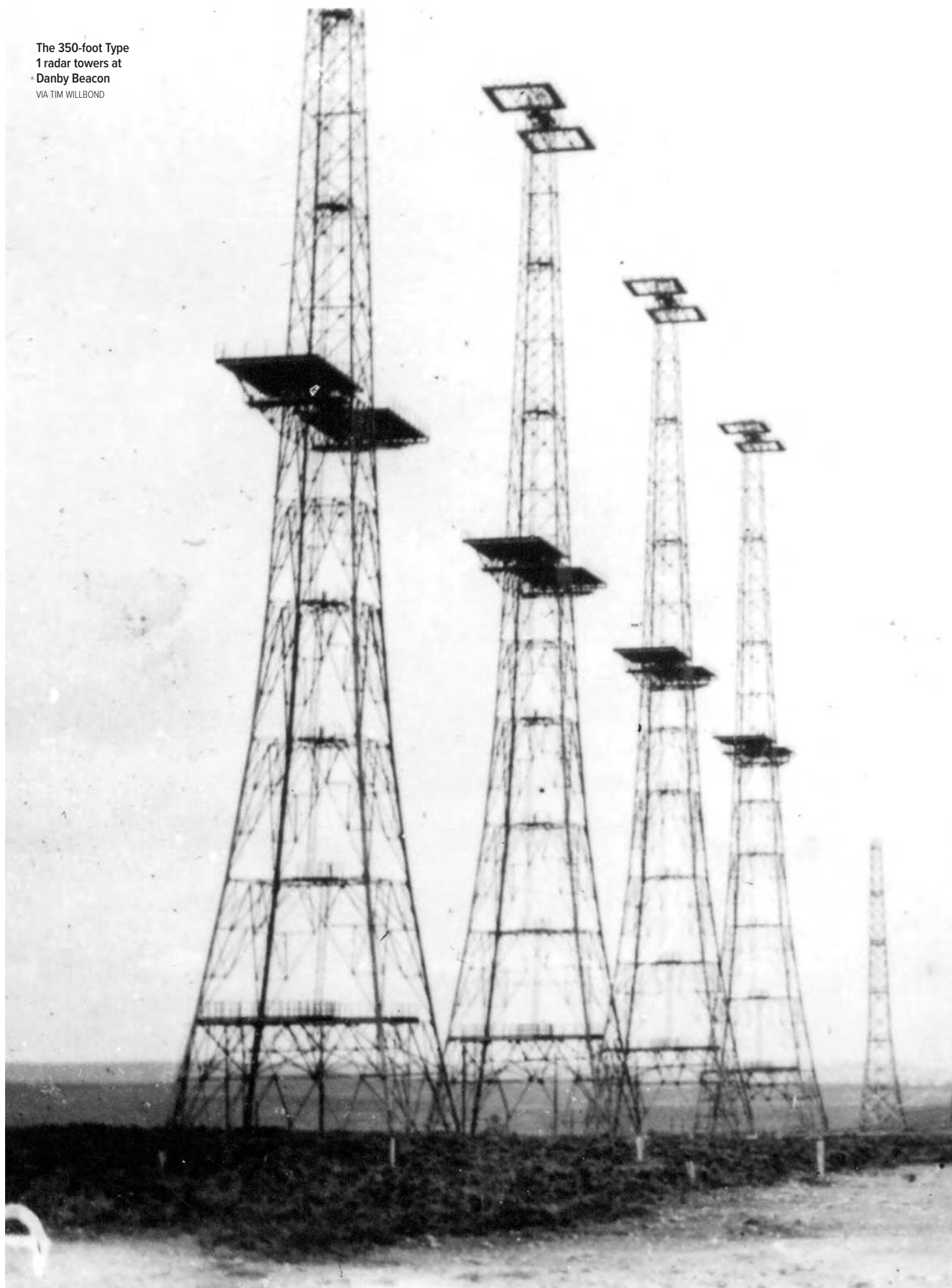


LEFT: Then as-new, the Hawker Hurricane eight-gun fighter on display at the Paris Air Show in November 1938 KEY COLLECTION

BELOW: Hawker Hurricane Mk Is, possibly at Northolt, dated 1938 KEY COLLECTION



The 350-foot Type  
1 radar towers at  
Danby Beacon  
VIA TIM WILLBOND





# CONTROLLING THE BATTLE

**Tim Willbond** provides an analysis of the air battles in the northern skies on August 15, 1940 to uncover the central role that command and control and air battle management played in delivering victory in the Battle of Britain

**T**he Dowding System was a command and control system designed to facilitate the management of an air battle. Robert Watson-Watt, the 'father of radar,' considered the air battles fought in the northern skies during the Battle of Britain to be a perfect example of how the Dowding System was designed to work.

There were two distinct battles that were fought in the No.12 and No.13

(Fighter) Group Areas of Responsibility (AOR) commanded by Air Vice Marshals Trafford Leigh Mallory and AVM Richard Ernest Saul respectively. The contained nature of the battles provides an excellent platform to compare and contrast the management of the two battles and to draw out just how important effective battle management was to achieving victory in the air.

Launched on August 13, Unternehmen Adlerangriff – or Operation Eagle Attack

- was the Luftwaffe's plan to mount intense attacks to defeat the RAF in the air and on the ground in just three weeks. The Luftwaffe's battle plan for August 15 confirmed the style of assault that would persist until September 7, with large scale attacks against airfield and surveillance units, mainly in the South East, and the use of large fighter formations to defeat the RAF in the air.





It can be justifiably stated that the Battle of Britain was largely fought by and, most certainly won by, 11 Group but August 15 saw the Luftwaffe mount strong flanking attacks.

The battle plan for August 15 was to mount large scale attacks along five axes from the Portland to the Farne Islands, a battle front of over 500 miles. Hitherto, large scale air attacks had only been mounted by Luftflotte (Air Fleet) 2 and 3 but the flanking attacks saw Luftflotte 5, based in Norway, enter the battle.

## Misinformation

It is generally acknowledged that the flanking attacks were conceived by Oberst Josef 'Beppo' Schmid, Riechsmarschall Herman Göring's Chief of Intelligence who was convinced that nearly all of Fighter Command's squadrons had been committed to the battle in the South.

Luftflotte 5's task was to launch two simultaneous attacks on RAF airfields across Yorkshire and the North East.

ABOVE: The Sector Operations Centre controlled the battle and was the only unit to pass orders to pilots in the air ALAMY

RIGHT: The operations room of a Type 1 equipped long range surveillance unit. The units were deployed around the coast in a network known as Chain Home VIA TIM WILLBOND

They counted on surprise and little or no resistance, but were in for a rude awakening.

The enemy was first detected at 1208 hrs when the long-range surveillance unit at Drone Hill in Berwickshire, equipped with a Type 1 radar detected the approaching attack some 90 miles out to sea abreast the Firth of Forth. With the Filter Room at Fighter Command quickly determining the attack comprised three

formations with a strength of 20-plus (quickly changed to 30-plus), their heading would result in landfall north of Newcastle. While determining the enemy's strength was one of the most difficult processes, it was clear to the 13 Group controller that a major attack was developing.

The attack was mounted by Stavanger, Norway-based Heinkel He 111s of Kampfgeschwader (Battle Wing) 26 (KG





26) 'Löwengeschwaderbase' ('Lions' Wing'), led by Obstd Robert Fuchs. With 72 crews tasked to fly the mission, their targets were the RAF airfields at Usworth in Sunderland and Dishforth near Ripon.

As part of 'Beppo' Schmid's plan, 17 Heinkel He 115 seaplanes departed 30 minutes before KG 26's bombers and set course for Dundee. The aim of this diversionary force was to draw any remaining fighters away from the main attacking force.

Messerschmitt Bf 110s from Zerstörergeschwader (Destroyer Wing) 26 (ZG 26) led by Gruppekommandeur

Hptm Werner Restemeyer took off to protect the bombers. The Bf 110s formed up behind, above and up sun of the Heinkel's which, initially, led to them being tracked separately. Things also went wrong within minutes of the He 111s launching – the lead navigator made a directional error. Despite being out by just 3°, this placed them on a track very close to that taken by the He 115s. This meant that rather than achieving the desired deception, the very opposite happened – the defences were instead alerted. The Filter Centre assessed the situation accurately and tracked the seaplanes as one formation

BELOW: A hive of activity – the wartime operations room at Danby Beacon VIA TIM WILLBOND

heading westerly with a strength of three-plus, while the main attacking force was detected in the same vicinity soon after.

It was about this time that Fuchs became aware of the error and turned the bombers on to a south-westerly heading to make landfall somewhere between the towns of Amble and Blyth on the Northumberland coast.

### The game is set

The initial move on the chess board, to order one squadron to attack the enemy well forward and to cover the advance if it altered course back to the Firth of Forth, by scrambling No 605 squadron from Drem, on a southerly but converging heading, were very sound battle management decisions. At 1235hrs, the group controller launched No 41 Squadron from Catterick, which was another timely decision given the distance the squadron had to travel to the battle area. This left one squadron

**“Scientist Robert Watson-Watt considered the northern battle to be a perfect example of how the system was designed to work”**



## DEFENDING THE NORTHERN SKIES

BELOW: A formation of Heinkel He 111s approaching, taken during the summer of 1940, when the He 111 was the Luftwaffe's principal bomber ALAMY

at Acklington and one at Usworth poised at high readiness, prepared to enter the battle quickly with plenty of fuel.

A major worry for the controller would have been a follow-on attack but the long range picture was clear. The controller committed the last two squadrons to battle, with 79 Squadron being scrambled at 1242hrs to reinforce No.72, while 607 (County of Durham) Squadron was scrambled at 1307hrs.

Cover for aircraft rearming could also be provided, if necessary, from fighters that had been airborne the shortest time.

### Enemy advance

The enemy formation's advance was southwesterly, but they turned onto a more westerly course abreast the Farne Islands. The sector then ordered further course corrections and the fighters sighted the enemy some 30 miles to the east of the Farne Islands flying in a westerly direction at around 1245hrs.

The squadron commander reported the enemy was advancing on a broad front and comprised some 100 Heinkel He 111

bombers and 27 Messerschmitt Bf 110 escort fighters. Subsequent analysis has shown that the enemy formations actually comprised some 63 He 111s from KG 26, nine having turned back, and 21 Bf 110s, a total of 84 aircraft.

The RAF had a height advantage of 3,000ft over the enemy and, after recovering from his surprise, Ted Graham, who was leading 72 Squadron, continued on an easterly course so that he could turn to attack out of the sun.

This manoeuvre meant that the attack was launched against the enemy's left flank with one section of four aircraft detailed to engage the Bf 110s, and the rest to attack the bombers. This was a well-executed attack and the enemy was taken completely by surprise.

Post-war analysis indicates that one Heinkel and two Bf 110s were destroyed in this initial attack, one of which was being flown by the Gruppenkommandeur of ZG 76, Hptm Werner Restemeyer. The other was in the hands of his adjutant, Lt Gustav Loobes. Restemeyer's machine was equipped with additional radios as an airborne control aircraft, and carried a radio operator. It was also fitted with a large external fuel tank to compensate for the extra weight – this is reported to have exploded. Significantly, the disruptive effect of a surprise attack well out to sea was considerable; several aircraft prematurely jettisoning their bombs and diving for low cloud cover. The remainder of the attack lost

**“The Luftwaffe was counting on surprise and little or no resistance in the north, but they were in for a rude awakening”**







LEFT: The Luftwaffe lost 15 bombers, like this Heinkel He 111 in the northern battle of August 15, plus more were damaged following the attacks KEY COLLECTION

BELOW: Groundcrew installing the belly tank to a Messerschmitt Bf 110, which increased its range but severely impacted on its effectiveness in battle

VIA TIM WILLBOND



cohesion, breaking into two separate formations. When engaged, the Bf 110s formed a defensive circle, but this proved fruitless. It transpired that the rear gunners had been left behind so the aircraft could carry additional fuel – otherwise they would not have had the range necessary to reach the UK from Norway.

One of what was now two formations resumed a course towards Acklington, and 79 Squadron, which had been scrambled at 1242hrs, was initially ordered to a patrol line over the Farne Islands to cover the incoming enemy. When it appeared certain that it was once again heading for the Acklington area, the sector controller vectored the squadron into a position up sun against the enemy formation; the squadron joined combat with the enemy before they crossed inland at about 1300hrs.

After an initial engagement with the bombers about half the squadron moved further out to sea to attack the Bf 110s which were not showing much inclination to advance further.

## Enemy engagement

The Usworth sector controller understandably assessed that the enemy objective was Acklington, but then the formation turned south as it crossed the coast and was engaged again by 79 Squadron. The two flights from 605 Squadron were operating separately – A Flight was over Blyth in a position astride the enemy formation; it engaged the Luftwaffe as they flew south. B Flight had flown on to patrol over Newcastle and, receiving no further orders, remained over the city.

Meanwhile, the other enemy formation had headed in a southwesterly direction

and crossed overland close to Seaham, where 41 Squadron was ready for them.

The unit was involved in a running battle from Seaham across County Durham as far as Bishop Auckland, during which, bombs were widely scattered. No.607 Squadron from Usworth was airborne at 1307hrs and sent to Newcastle, but this order was changed, the unit sent to the mouth of the Tyne instead.

Shortly after arriving, Flt Lt Francis Blackadder, who was leading the squadron, spotted a large formation 5,000ft below over Whitley Bay on a southerly heading; this was the formation that had crossed the coast close to Acklington. The squadron engaged the enemy and what followed was a running battle down the coast of Durham.

It seems that aircraft from 41 Squadron may also have joined this engagement.

The enemy seemed to be heading for Middlesbrough, but then turned out to sea and withdrew.

No.605 Sqn's B Flight, which had been patrolling over Newcastle, saw an enemy formation approaching from the southeast, almost certainly the aircraft

that had been in battle over Durham with 41 Sqn. The flight engaged and harried the enemy as they withdrew towards the coast.

All in all, this was a very well managed battle, by both the group and sector controllers. The attack cost the enemy a total of 15 aircraft, with eight bombers and seven fighters destroyed and many others badly damaged.

The losses represented just under 18% of the enemy bomber strength; the Bf 110 force had lost a third of its number.

Of great significance, the attack was seriously disrupted and although bombs were randomly scattered around the northeast, objectives were not attacked and they had little effect other than in Sunderland where 24 houses were damaged. No industrial buildings were damaged and the main enemy objectives were not attacked.

Many narratives on this battle suggest that no RAF fighters were lost, but Plt Off KS Law of 605 Squadron was wounded and crash landed five miles north of Tynemouth and not all the others were unscathed with several other pilots being wounded.

Further south, long-range surveillance units at Staxton Wold and Stenigot

## DEFENDING THE NORTHERN SKIES

detected a formation heading for Flamborough Head at 1239hrs. It was more than 90 miles from the coast, this providing plenty of warning time.

Once again, the Filter Centre quickly designated this as hostile and estimated the height at 12,000ft and the strength as 40-plus. The objective of this attack was once again RAF airfields and the force comprised 50 Junkers Ju 88 bombers of KG 30 from Aalborg in Denmark. This enemy advance was heading towards the Church Fenton sector, which brought it under No.12 Group's auspices.

However, the group's response was tentative and far less effective than it could have been. It was accustomed to launching small numbers of fighters against minor incursions and, despite the warning time, it appears that squadrons were not brought to readiness with the alacrity shown by 13 Group. The

legendary Hugh 'Cocky' Dundas of 616 Squadron wrote: "The pilots were in the Mess having lunch when without any warning the Tannoy called out 616 Squadron Scramble, Scramble, Scramble." The unit responded quickly and was off the ground at Leconfield by 1300hrs – ordered to patrol over Hornsea at 2,000ft.

This order was flawed on two counts, firstly, the height of the enemy was given at 12,000ft and with the known margin of height error the squadron should have been scrambled to a minimum of 12,000ft. Secondly, orbiting the squadron rather than immediately ordering a cut-off interception allowed the enemy to ingress many miles and had they changed heading an interception could have been problematic or missed completely.

The day was complicated by the presence of two convoys – the biggest was code-named Agent and comprised 28 ships, and



ABOVE: BBMF Spitfire Mk.IIa P7350 representing 72 Squadron in 1995, with the Farne Islands in the background VIA TIM WILLBOND

LEFT: Air Vice-Marshal Sir Trafford Leigh-Mallory commanded 12 Group in 1940 KEY COLLECTION

BELOW: Air Vice-Marshal Richard Saul was in command of 13 Group covering the north of England and Scotland during the Battle of Britain VIA TIM WILLBOND



had sailed from Hull at 1135hrs, while the other was in the Humber estuary. Much of 12 Group's work previously had been on convoy protection and, despite what was clearly a large enemy force flying towards the coast, convoy protection seems to have influenced the thinking.

No.264's Boulton Paul Defiants were scrambled at 1305hrs and ordered to protect the convoy in the Humber. This was not an unsound decision, but what followed most certainly was.

At 1306hrs, half of 73 Squadron from







**“A major worry for the controller would have been a follow-on attack, but the long range picture was clear so the last two squadrons were committed to battle”**

Church Fenton was ordered to patrol over convoy Agent with the other half retained to patrol over the base. The second decision was deeply flawed – the squadron should have been used as a single unit and committed forward to engage the enemy advance.

Another bizarre move followed, with 13 Group asked to scramble its 219 Squadron Bristol Blenheims from Catterick – this despite 12 Group having its own Blenheim unit only ten miles further away at RAF Digby. Using these relatively cumbersome twins while 302 Squadron had Hawker Hurricanes at Leconfield, and No.222 had Spitfires at Kirton-in-Lindsey, seems ill judged. Indeed, further south at Digby, only ten miles further away from the battle area than Church Fenton, were the Hurricanes of 46 Squadron and 611 Squadron's Spitfires.

As it was, after a delay in diverting the squadron to a patrol line, 616 Sqn was then ordered to intercept the attack from its patrol over Hornsea. Dundas and his colleagues were vectored north and when abreast Flamborough Head saw a large formation of enemy aircraft flying in a southwesterly direction towards the coast. The squadrons brought the enemy to battle around ten miles out to sea. In

the meantime, having belatedly read the situation, the sector controller vectored 73 Squadron's A Flight, which was en route to its convoy protection task, to engage the enemy a few miles to the east of Flamborough Head.

The defenders did an excellent job, accounting for seven Junkers Ju 88s with a further three crash-landing on their return to base.

However, the weight of attack by just 18 fighters engaging an enemy advance on a broad front was insufficient to disrupt the raiders, and a large enemy force did reach their objective.

At around 1330hrs the Ju 88s attacked Driffield at low level, dropping more than 160 bombs and strafing the airfield. Seven personnel were killed and some 20 wounded, fires were started, four buildings were damaged extensively and four hangars destroyed, along with ten Whitley bombers.

Whether by design, as a target of opportunity, or an accident of fate, bombs hit an ammunition dump at Burton Agnes. Blenheims from 219 Squadron were airborne at 1310hrs and only arrived in time to undertake some tail chases with the Ju 88s. They did not have sufficient speed advantage to overtake them; the

longest chase went on for some 160 miles out to sea.

The high kill rate reflects very well on the one-and-a-half squadrons involved, but less so on the battle managers who left a large formation of the enemy unchallenged overland and they should have committed at least another two and a half squadrons to battle.

The out-flanking raids in the north were a failure and the Luftwaffe lost 15 bombers and seven Bf 110s with further aircraft written off due to battle damage and crash-landings. It was a very high price to pay for no significant gain and the Luftwaffe did not repeat this type of flanking attack again.

Both Saul and Leigh Mallory were absent from their headquarters on the day of the battles and so it was their group controllers that had to make all battle management decisions but those decisions reflect on them.

No.13 Group's battle management tactics were robust and effective with the enemy constantly challenged and disrupted whilst No.12 Group's tactics were tentative and confused with the enemy left largely unchallenged overland, allowing them to deliver an effective attack on their main objective. **FP**

No one will ever know what was going through the minds of the 11 crew and two passengers on board the United States Air Force (USAF) Boeing RB-29A Superfortress *Over Exposed* as it powered through the skies of Derbyshire on November 3, 1948. With a broken layer of dark cloud often hiding the unforgiving moorland-covered plateaus of the Peak District below them, one wonders if the crew were thinking of home. With their ‘temporary duty’ – or TDY – complete, after that flight they were just a few days away from returning Stateside to their family and friends. Unknown to them, they had taken off for the final time...

### The road to Bleaklow

The Superfortress destined to become *Over Exposed* rolled out of Boeing’s Renton factory in Washington in late June 1945. Assigned the serial 44-61999, the airframe was built as part of an order for 99 examples of the four-engine heavy bomber bound for what was then the United States Army Air Force. It was the 89th B-29A-55-BN. Delivered the following month and prepared for war across the Southeast Asian theatre, the aircraft was soon considered surplus with the Japanese surrendering on September 2 that year. However, shortly after it was one of 118 B-29s chosen for conversion for photographic reconnaissance work. Redesignated an F-13A, the aircraft was fitted with one K-18, three K-17B and two K-22 cameras – all of which were developed by the Fairchild Aerial Camera Corporation – while the type’s standard bombing equipment and defensive armament were retained.

Initially assigned to the 91st Strategic Reconnaissance Group’s (RG) 16th Photographic Reconnaissance Squadron (PRS) at MacDill Field in Florida, the airframe was diverted to the 58th Bombardment Wing’s 509th Composite Group at Roswell Army Air Force Base in New Mexico in April 1946. On its arrival, the aircraft was quickly dispatched to Kwajalein Island in the North Pacific Ocean to support Operation Crossroads – the United States’ atomic bomb tests at Bikini Atoll. Assigned to the group’s Tactical Operations Unit (dubbed Task Unit 1.5.2), 44-61999 was one of eight F-13s allocated to conduct aerial photographic operations and radiological reconnaissance missions during the testing.

As such, on July 1, the aeroplane accompanied B-29 44-27354 *Dave’s Dream* as it dropped a free-fall 23-kiloton yield Y-1561 ‘Fat Man’ Mark III atomic bomb nicknamed ‘Gilda’ under the codename ‘Test Able’. Armed with 25 cameras, 44-61999’s crew was tasked with capturing the weapon leaving 44-27354 before diving away. By the time the bomb exploded over the Bikini



RIGHT: A memorial was erected at the site of 44-61999’s final resting place by members of 367 Air Navigation Course in November 1988, but parts of the port wing and undercarriage seem to have formed their own tribute to the 13 men who died where they fell that fateful day in 1948 ALL IMAGES KEY-JAMIE EWAN UNLESS NOTED



# HELL ON HIGH GROUND

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**Jamie Ewan** trekked across Bleaklow Moor in Derbyshire's High Peaks to visit the final resting place of a Boeing RB-29A Superfortress and discover what happened on a fateful day in 1948







Atoll lagoon, F-13A 44-61999 was some seven miles away. On July 25, '61999 was again in action supporting 'Test Baker' – this time capturing the detonation of a near identical weapon (dubbed 'Helen of Bikini') underwater.

With the story of 44-61999 being told the world over, it has been widely recounted that the aeroplane gained its now famous *Over Exposed* moniker while serving at Kwajalein for getting too close to a so-called 'nuclear flash' over Bikini Atoll. Shortly after Test Baker, the eight F-13s were flown back to the US where the extra cameras were removed at Wright Field in Ohio, before being delivered to Roswell for contamination checks. With these completed, 44-61999 was returned to the 16th PRS at MacDill in late 1947 and pressed into regular squadronic service as a long-range photographic reconnaissance platform with Strategic Air Command's (SAC) 55th RG.

### From Bikini to Berlin

As the days of 1948 were ticked off the calendar, it became harder to ignore the menacing clouds of conflict building up on Europe's horizon as cracks began to appear in the multinational occupation of post-war Germany.

The communist Soviet Union began to flex its muscles during the nascent days of the Cold War. The crisis in Germany intensified on June 24, when Soviet forces

blockaded rail, road and water access to Allied-controlled areas. Isolating more than two million people and desperate to stave off all-out war, this left the western powers with only one viable option – airlifting supplies to Berlin until the crisis could be solved diplomatically. Two days later on June 26, what would become one of the biggest airlifts in history began. But how is it that *Over Exposed*, by then designated an RB-29A in line with the then newly established USAF, found itself flying through the skies of Europe?

In late July 1948, as part of US efforts to support the besieged city, which required around 4,500 tons of coal and food per day, USAF Chief of Staff Gen Hoyt Vandenberg ordered the deployment of some 90 Superfortresses to various bases across the UK. The aircraft – assigned to SAC's 2nd Bombardment Wing – would augment the already struggling transport fleets and signal the West's resolve to sustain the airlift as tensions continued. However, among the bombers the USAF quietly interposed some of its newly designated RB-29As to secretly 'map' Soviet-held territory using six cameras that could capture a strip of ground three miles wide per frame.

As such, the 16th PRS – then under the command of the 311th Air Division – quickly dispatched several of its machines (including 44-61999) on a TDY to RAF Scampton in Lincolnshire. While the exact

ABOVE: A rare image of Boeing RB-29A 44-61999 *Over Exposed* while on strength with the 16th PRS out of McDill with 'redacted' nose art, suggesting the aircraft was either in, or had recently returned from Hawaii when the photograph was captured. This might also be one of the few images of the aeroplane during its TDY to Scampton in 1948 KEY COLLECTION

BELOW: Enlisted personnel assigned to Task Unit 15.2 pose with *Over Exposed* between sorties at Kwajalein during Operation Crossroads – the United States' atomic bomb tests at Bikini Atoll in 1946. The names of the men remain unknown to this day UNITED STATES AIR FORCE





number of 'airlift' flights over Berlin that *Over Exposed* conducted over the following two months is not known, it is known that the aeroplane was regularly flown by the same crew throughout its European detachment. These were the men who climbed into the skies on November 3 that year for what should have been a routine flight. Led by Capt Landon Peter Tanner (pilot), the rest of the crew comprised: Capt Harry Stroud (co-pilot); TSgt Ralph W Fields (engineer); Sgt Charles R Wilbanks (navigator); SSgt Gene A Gartner (radio operator); SSgt David D Moore (radar operator); camera crew TSgt Saul R Banks, Sgt Donald R Abrogast, Sgt Robert I Doyle and PFC William M Burrows; and Capt Howard E Keel (photographic advisor).

### Fateful flight

Despite their rotation in England having come to an end, Tanner and his crew were scheduled to undertake one of the regular 'runs' to the USAF base at

Burtonwood in Cheshire, as part of a three-ship on November 3, 1948.

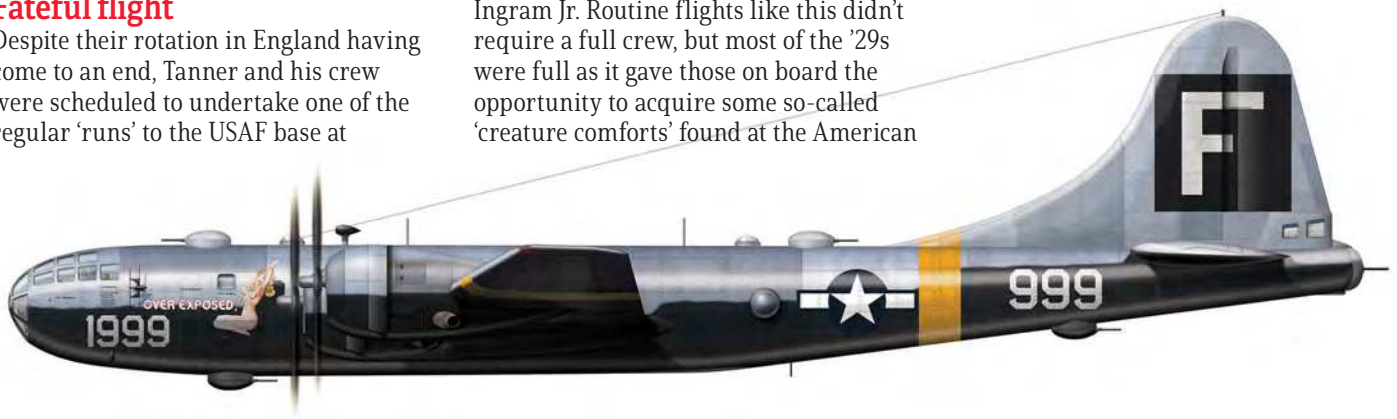
What had once been the largest facility of its type in Europe was now being used as the primary maintenance base for Douglas C-54 Skymasters taking part in the Berlin Airlift. However, despite having had a significant US presence since 1942, supplies, mail and payroll packages bound for the so-called 'little America of the northwest' were initially delivered to Scampton. Similarly, those destined for the States were also sent via the Lincolnshire base. As a result, it wasn't unusual to have multiple 'Superforts' crisscrossing the uplands of the Peak District each day.

On that fateful day, the crew of *Over Exposed* welcomed two passengers – Cpls Clarence M Franssen and George Ingram Jr. Routine flights like this didn't require a full crew, but most of the '29s were full as it gave those on board the opportunity to acquire some so-called 'creature comforts' found at the American

BELOW: USAF Boeing RB-29A 44-61999 *Over Exposed*, circa late 1947. The aircraft boasts the markings applied by the 509th Composite Group's Task Unit 1.5.2 while supporting Operation Crossroads. Note in particular the yellow bands around both the wings and rear fuselage

ANDY HAY-FLYING ART

BOTTOM: The near-28ft tail of *Over Exposed* reaches into the night sky from the carnage of the wreckage – almost like a ready-made memorial – just hours after the aircraft was located. Note that the rudder and ailerons are exposed, a result of the post-crash fire. The tail was later destroyed as part of the salvage operation ROYAL AIR FORCE MOUNTAIN RESCUE ASSOCIATION



**"It would take *Over Exposed* just 22 minutes to cover the 86 miles between the two bases – nothing too taxing for a man said to be 'one of the most experienced B-29 pilots' around"**







ABOVE: November 4, 1948: Smiling for the camera, members of the RAF Mountain Rescue Team from Harpur Hill make their way along Snake Pass to help search and clear the crash site of human remains and personal effects. The majority of the men were volunteers, unaware of the horrors that awaited them

ROYAL AIR FORCE MOUNTAIN RESCUE ASSOCIATION

BELOW: This view looking east – towards 44-61999's final destination, Burtonwood – reveals the extent of the debris pool more than 70 years on from that terrible November day

cold winter air while waiting for their 'Ts and Ps' to hit the green. With Scampton's Meteorological Office reporting showers and scattered cloud between 2,000 and 4,000ft along the route and with visibility sitting somewhere between four to six miles, Tanner chose to fly VFR (visual flight rules) – after all, it was a routine flight the crew had flown several times before. In keeping below the cloud, he would be able to see the

ground throughout. And with a low-level cruising speed of 220mph, it would take *Over Exposed* just 22 minutes to cover the 86 miles between the two bases – not too taxing for a man said to be "one of the most experienced B-29 pilots" around.

With a VFR Flight Plan filed with Air Traffic Control by telephone, at around 1015hrs Tanner pointed 44-61999 down Scampton's near-6,000ft runway and pushed open the throttles.

As the sleek silver and black machine slipped into the overcast skies of Lincolnshire, nobody suspected that it might never return. Ideally, *Over Exposed* should have touched down at Burtonwood around 1035hrs... but it didn't. And while not unusual (the weather wasn't ideal; perhaps Tanner had decided to fly around it or turned back for home?), concern grew gradually – especially when it was realised no one at either Burtonwood or

Scampton had heard from the aeroplane. After an hour, it was apparent that something had happened to 44-61999. With all agencies alerted that an aircraft was unaccounted for, and despite the weather getting worse by the minute, the 16th PRS scrambled another RB-29A out of Scampton to begin a search. Before long, it was reported that burning wreckage could be seen on the high ground at Bleaklow – some 31 miles to the east of Burtonwood. It was just after 1500hrs.

At the time, members of the Harpur Hill RAF Mountain Rescue Team were in the latter stages of an exercise close by when they picked up the messages being broadcast by the searching RB-29A. A Superfortress "was down on the moor and burning". On hearing the grid reference, the team made its way to Higher Shelf Stones in the hope of finding survivors. But on approaching the blazing wreck through the incessant mist and drizzle it was clear no one had survived. With 44-61999's tail rearing up from the desolate moor into the darkness – as if already commemorating its lost crew – thoughts quickly turned to recovering the crew and their personal effects. However, by the time night fell, just eight of the 13 had been found, scattered around the still burning remains of what just hours before had been a machine of war.

### Grim task

It wasn't until the next day that the true extent of the crash became apparent. Before dawn, some 50 men tasked with the grim job of recovering the bodies made their way towards *Over Exposed*'s final resting place from Snake Pass, about a mile to the south. A Harpur Hill serviceman with the surname Allsopp was involved that day. He later recalled: "The Americans were there in force – including a group of Military Police in





white helmets, webbing, pistols, the lot. They all appeared to have an unlimited supply of fags, which we took with great alacrity as pay day was due and we had about three woodbines and two dog ends between us!

"The American officer was on the radio most of the time trying to persuade some higher authority that he wanted a fleet of helicopters sending in to fetch the bodies. He kept saying, 'What f\*\*\*\*\*g low cloud? Jesus Christ, I can see for miles!' I gathered that the authority did not think this was correct. We could not see the top of the hill above us. At that time helicopters were a rare sight and not very large at that. He then tried another tack and wanted to know where the nearest US Army heavy construction unit was, to drive a rough road up and across the moor to the crash site to get 'some goddam f\*\*\*\*\*g trucks up there and get these poor f\*\*\*\*\*g guys down,

there is no way up there for Jesus Christ'. Well, whether or not Jesus Christ could have got up there I do not know, but our adjutant – Flt Lt E E 'Buster' Allen DFC, a former Battle of Britain pilot – was certain we could, and he had us off our backsides each carrying a stretcher, and off we went into the gloom, up the sodden hillside."

Led by the American officer and armed with torches and arc lamps the group toiled its way across unforgiving, water-logged ravines, stinking peat bogs and streams for two hours before 44-61999's tail finally loomed out of the gloom of the grey dawn. Allsopp continued: "The walking and stumbling appeared to go on forever in the darkness, you just got to the point of making sure you kept up to the man in front, wondering what lay ahead of us – I had never seen a person that had suffered a violent death.

"About a quarter of a mile from the bulk

of the wreck I began to see huge pieces of metal, equipment and papers scattered around – and then I arrived at the rim of the crash site. The rim had been created by the [aeroplane] ploughing into the moor as if it had tried to bury itself to hide the shame of not being able to fly. At the centre were shapes bearing no relation to anything you had ever seen – masses of cable, metal, instruments, seats, equipment of every description, paper everywhere and the bodies of the airmen lying where they had been thrown clear of the aircraft in grotesque positions. There was also a lingering, smouldering smell everywhere – slightly sweet, or was it a sickly smell? It appeared and then was gone, a smell you knew but then you could not place it... like a memory of cooked meat but then it was not. It was elusive but persistent all the time I was there."

With a search revealing the rest of the crew were still trapped within the tangled, burnt-out fuselage, the recovery party got to work. In doing so, the sheer violence of the crash and fragility of life became evident, as Allsopp noted: "I helped to release a body from the chair it was strapped to – maybe 120ft from the main crash. He had not a mark on his body, apart from a broken neck."

Finding other bodies, he went on to describe the gruesome scene, adding that it was hard to "put out of your mind that this was a person who a few short hours previously was walking like you and could have spoken to you. He had been a man with hopes, dreams, wife, children..."

**LEFT:** While much of the RB-29A's wreckage sitting at Higher Shelf Stones is barely identifiable, some is – including all four of the aeroplane's Wright Duplex Cyclone engines. Such was the aircraft's impact, it was reported that one of the 2,670lb powerplants was found more than 100ft away from the main wreck site







Spending hours searching the site, recovering the crew and picking up the likes of wallets, photographs and other personal effects, Allsopp recounted: “You worked automatically, there were things to be moved together, bodies over there, wallets in that box, identity tabs if loose there, watches and jewellery here, so on and so on. We continually went around looking, poking, searching an area again if a body had been there to make sure everything was retrieved for identification and to send back to their next of kin. So it went on until there appeared to be some kind of

ABOVE: At the time of the author’s visit, the conditions on Bleaklow were eerily similar to those reported on the day *Over Exposed* met its demise

RIGHT: Despite the ferocity of the post-crash fire and more than seven decades of harsh winters since, 44-61999’s port main undercarriage still retains most of its tyre



distorted order and tidiness about the site.” During this recovery operation, someone in the fuselage excitedly shouted: “Look at this!” as he held in one hand a cotton bag featuring the words ‘Wells Fargo’, and clutched a bundle of what appeared to be bank notes in the other: “They were American dollars,” Allsopp recalled. Scrambling toward the commotion, one of the American officers reportedly took the bag, and said: “This is what we’re looking for!” to his colleagues and promptly left the crash site.

“There was \$7,400 – it was the payroll for Burtonwood,” said Allsopp, before adding: “Not a note was burnt or even singed, [yet] 13 men had died.”

With all of the crew accounted for, they made their final journey together. Their destination? Burtonwood. As the recovery party made its way down the peak with their grim load, investigators combed the wreckage for any clues as to what had happened. Then a salvage team worked to reduce the wreckage as much as conceivable – a near impossible task given the ferocity of the impact and its location.

### What happened?

With the accident committee submitting its report in mid-December 1948, its somewhat indecisive findings noted: “Very little information is available concerning the details of the accident. There were no eyewitnesses to the actual crash. The aircraft was approximately three miles north of





**“The rim had been created by the aeroplane ploughing into the moor as if it had tried to bury itself to hide the shame of not being able to fly”**

course and from all indications was on a heading of approximately 290° magnetic, which is the approximate heading from Scampton to Burtonwood. The time of the crash has been tentatively established from one of the crew member's watches, which was smashed and stopped at 1050. The aircraft was a total wreck and burned following the impact. There were 13 fatal injuries.”

Since the accident board was unable to definitely establish the cause of the accident, no recommendations were made. That said, some people have noted that findings of USAF air accident investigations of that time appear to be somewhat benevolent when compared with their RAF counterparts.

But how was it that an RB-29A with “one of the most experienced B-29 pilots” at the controls ended up hitting the high ground at Bleaklow? With an ETA at Burtonwood originally logged for around 1035hrs, *Over Exposed* was

still more than 30 miles away (around ten minutes flying time) from the base when it crashed. With no emergency transmissions recorded – suggesting the aeroplane was ‘serviceable’ up until the point of impact – and most agreeing with the committee's findings, many couldn't help but express concerns that the loss of 44-61999 was reminiscent of other incidents when a pilot tried to maintain VFR in marginal conditions.

Several theories have materialised. Had a simple navigational or timing error meant the aeroplane was off course? Had the crew taken the opportunity to get in some ‘sightseeing’ around the Peak District before heading back Stateside? Or had the worsening weather forced Tanner and Stroud to look for a way around it to remain VFR?

At the time of the accident, the 311th Air Division's commanders continually urged their pilots to re-file for IFR (instrument flight rules) if such

ABOVE: A view of the wreckage that still remains on Bleaklow – it is a sobering sight

conditions were encountered. Could it have been that the crew were holding out until the weather passed, or could they have been in the process of filing a new IFR flight plan?

Or did Tanner think he was well clear of the peaks, therefore pushing the aeroplane lower to remain in visual contact with the ground or to establish his position?

Whatever happened on board, 44-61999 ended up on a direct heading with Bleaklow's Higher Stone Shelf – the second-highest point in Derbyshire. It is doubtful that any of the crew saw the ground before they hit it.

Today, huge amounts of the wreckage – much of it unidentifiable – remain where they fell and a small memorial sits sombrely near to where the 13 crew met hell on high ground. **FP**





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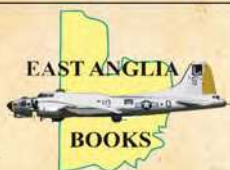
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In this extract from his latest book, 'The Mighty Eighth, Masters of the Air Over Europe 1942-45', **Donald Nijboer** details the build-up to a typical daylight bombing raid





ABOVE: B-17F-25-BO 41-24577 *Hell's Angels* of the 358th Bomb Squadron was also the first Eighth Air Force B-17 to complete 25 missions, 23 with Captain Irl L Baldwin's crew. This occurred on May 13, 1943, six days before *Memphis Belle* reached the 25-mission mark. *Hell's Angels* finished 48 missions without injury to any crewman. *Memphis Belle* was the first B-17 to complete 25 missions and return to the US VIA OSPREY

**T**he airmen of the Mighty Eighth were alerted the day or evening before that a mission was to be flown the following morning.

Once a target had been selected, the lead crew officers were awakened—these being the men specially trained to lead the group formation. They were up before the rest of the crews and four hours before take-off to attend pre-briefings in the operations room.

Lead navigators and bombardiers were informed of the target and details of their route. Lead pilots received the same information and studied the course fixed for the mission to ensure that everyone

understood their task and objective. In the course of these briefings, the rest of the men taking part in the day's operations were roused from bed, many having slept fitfully in anticipation of the dangers that lay ahead.

If enlisted men and officers shared different quarters from the rest of the crew, the men of each bomber crew would usually live within a short distance of one another so that the whole could be summoned at once by the duty sergeant. It was not uncommon for crews to be awakened at two or three o'clock in the morning, with half an hour allowed for washing, shaving, and dressing, and a

stop at the latrine before proceeding to the mess hall. There the cooks and kitchen staff, awakened an hour before the crews, would have food already prepared—fruit juice, cereal, toast, and coffee with either pancakes or powdered (and, very occasionally, fresh) eggs.

Two hundred to 400 men could be fed at once, so enabling an entire combat group to be readied for their mission.

From the mess hall the men were conveyed by covered truck, each carrying two or three bomber crews, to the briefing rooms, which could seat approximately 200 men. Officers and enlisted men were sometimes briefed



ABOVE: 500lb GP bombs being loaded into a B-17F. This was the most widely used bomb by the Eighth Air Force, with 1,365,387 dropped on Germany and occupied Europe DONALD NIJBOER

together, but in many cases they were informed of the details of their mission in separate rooms or buildings. A briefing room usually had a raised podium behind which, on the wall above, hung a large map of the area of operations.

A duty clerk would already have marked out the mission route, target, and fighter rendezvous points on the map with coloured ribbons and pins. The briefing officer entered the room, walked down the aisle, mounted the dais, and drew back the curtain so all assembled were made aware of the objective simultaneously. If the raid required a deep penetration into enemy territory, the men's reaction of deep foreboding was usually palpable. Bud Klint, serving out of Molesworth, remembered the scene on August 17, 1943, when "every heart in the briefing room hit rock bottom when they pulled the cover off the mission map and revealed that black tape running direct from England to Schweinfurt," the site of a heavily defended ball-bearing plant in the heart of Germany. In the event, 231

B-17 crews were to remain in the air over enemy territory for almost four hours.

Dale Rice, in the same aircraft, recalled how the officer opened the curtain and announced, "This is it. This is the big one," and gave a few more details. By the time it was finished and we realized how far we were going, I think we were all in a state of shock."

## The Big B

Ed Leighty, a B-17 waist gunner, remembers the trepidation he felt on the morning he and the other members of the crew were sent on the first daylight attack against Berlin, not surprisingly the most heavily defended city in the Reich:

The intelligence officer was a big man; he looked as if he had lived a good life. He pulled back the curtain over the wall map, and there was the target marked out by a long wool string from England to Germany. "Men," he said pointing with his stick, "today you will bomb Berlin." "I don't know about any men being there in the room, but I know there were a

**"Every heart in the briefing room hit rock bottom when they pulled the cover off the mission map and revealed that black tape running direct from England to Schweinfurt"**







ABOVE: A flight of P-51B/D Mustangs of the 352nd Fighter Group, the 'Blue Nose Bastards of Bodney', escort 458th Bomb Group Liberators across the English Channel, mid-1944 DONALD NUBOER



LEFT: A Spitfire Mk.Vb (BM635) of the 309th Fighter Squadron, 31st Fighter Group, in September 1942 DONALD NUBOER

lot of frightened boys," said Ed. The briefing officer had the unenviable job of explaining the purpose and details of the mission in a concise and articulate manner, carefully interjecting humour where possible to relieve some of the tension from which the men inevitably suffered. The length of the briefing usually depended on the importance and relative danger of the mission. After the ground control or operations officer finished his briefing, an intelligence officer explained the details of the target and the enemy's defences, both on the ground and in the air. Crews would be informed of the intensity of anti-aircraft fire they could expect to experience along the route to, and over, the target, as well as likely opposition to be offered by enemy fighters. Where available, photographs of the targets were projected on a screen.

The staff weather officer then discussed predicted weather conditions that might affect the flight. Finally, the principal briefing officer opened the floor to questions before calling for all crewmen to synchronize their watches. The main briefing normally averaged about 40 minutes, after which the bombardiers and navigators moved to another room or rooms to make their own plans and preparations with the help of operations and intelligence staff. Specifically, navigators used maps to draw up their flight plans, notwithstanding the fact that a bomber group flew as a formation.

Meanwhile, the bombardiers examined the available data concerning the target for the day, which they hoped would include photographs revealing prominent landmarks, natural or man-made, which could serve to guide the path of the aircraft and aid in bombing.

Gunners generally received their own briefing in a separate room, where details of the mission were discussed, with emphasis on the strength of fighter deployment and the locations of possible fighter interceptions. An operations officer also dealt with issues such as altitude, weather, the type of fighter

## THE MIGHTY EIGHTH

escort available, and rendezvous points for the bombers. Afterwards, the gunners collected their flight rations, electric flying suits, and other clothing, harnesses and parachutes, oxygen masks, and inflatable life jackets.

Prior to take-off, the gunners checked their weapons and ammunition, which had been removed after the previous mission for maintenance and cleaning, before being returned to the aircraft on the morning of the next mission. Flak suits, other body armour, and steel helmets had also already been loaded beforehand either onto the bomber itself or into a tent that was erected on the

ground for the waiting crew and their equipment. Meanwhile, the pilot and crew chief walked around the aircraft inspecting the tyres, fuel vents, props, and other moveable parts to ensure that all was well. The pilot and any other members of the crew not yet dressed in their flying suits could then do so while the rest of the crew relaxed as best they could, often with a cigarette in hand.

Ten minutes before the pilots started the engines, each airman checked the other's parachutes and life preservers to ensure they were in working order. They then climbed aboard the bomber to take up their positions or "stations." The easiest point of access for a B-17 was via the rear fuselage door which led forward through the bomb bay. Those with the requisite fitness could haul themselves up through the nose-hatch

door—a difficult task in heavy flying clothes. If entering a B-24 through the rear, crewmen employed a ladder through the floor hatch, or through the open bomb bay which sat low to the ground. Once inside, access forward to the flight deck was gained across the ten-inch-wide catwalk across the bomb bay and through the waist. The navigator and bombardier entered through the nose wheel hatch.

### Green for go

A green flare signalled the time for engines to be started, which came 25 minutes before scheduled take-off. This gave sufficient time for the pilots to repeat the same checks that had been conducted by the ground crew several hours before. At the same time, the flight engineer, who doubled as the top turret gunner, stood behind the pilot and co-pilot to monitor

BELOW: B-17 waist gunners pose for the camera. Early on, the guns were fed from ammo cans, which had to be replaced when they ran out. This was quickly changed to a belt-fed arrangement NARA





BELOW: B-17 navigator's position. Secondary duties for a navigator included manning one of the two machine guns located just forward of his position NARA



ABOVE: In a raid on Cologne on September 27, 1944, an 88mm shell entered the fuselage of B-17G 42-98004 and exploded, killing gunner Sergeant Kenneth Divil. The aircraft made it back to the 351st Bomb Group's base at Polebrook, Northamptonshire, where its pilot, Captain Jerome Geiger, was photographed surveying the damage DONALD NIJBOER

**"I saw a long, ambling line of Forts proceeding like huge, drab prehistoric birds that made screeching cries as the brakes were constantly applied to keep them on the taxi strip. It was an otherworldly scene"**

the instrument panel and gauges. When the time for taxiing arrived, the pilot gave a signal to the ground crew to remove the wheel chocks. Sergeant George Hoyt, a B-17 radio operator, recalled this phase of a mission thus:

"As we taxied out to become part of a long procession of B-17s waddling along the taxi strip, I stood up on an ammo box to let my head get above the radio room roof. I saw a long, ambling line of Forts proceeding like huge, drab prehistoric birds that made screeching cries as the brakes were constantly applied to keep them on the taxi strip. It was an otherworldly scene in the dim light just at sunrise."

The pilot had been briefed on the order of taxiing and he carefully watched to ensure that the order of take-off was maintained according to the flight plan, which in turn dictated the formation of the bomber group into its usual three positions—lead, high, and low. To ensure his correct position in the line, a pilot usually kept an eye on the call-letter painted on the tail of the aircraft in front.

When a green light was flashed from the flying control van parked off the head of the runway, the pilot of the lead plane released his brakes and the long process of

bringing the formation into the air began, each co-pilot advancing all throttles for maximum power. A B-17 or B-24, weighing 65,000lb, generally lifted off after travelling approximately 3,000ft, by which time it would be moving at about 110–120mph, with aircraft ascending at 30- to 45-second intervals. During the ascent, turret gunners—positioned in the bomber's underside—sat in the radio room in case of a crash, which would, of course, place them in greater jeopardy than anyone else aboard. To avoid spending more time than absolutely necessary in his cramped station, the ball gunner would not establish himself in his post until after the aircraft had reached an elevation of several thousand feet. Eventually, all the bombers—apart from those obliged to abort owing to a malfunction during take-off—would reach the agreed assembly point, establish their formation, and proceed to the target.

Once an aircraft reached a height of 10,000ft, the navigator or co-pilot spoke over the interphone system to the remainder of the crew, advising them to switch on their oxygen supply. Each man then adjusted his mask and checked his oxygen-flow regulator.

To check that every member of the crew was receiving oxygen, the bombardier, or sometimes the pilot, periodically spoke to each man to ensure that all was well. This procedure could save a man's life, for an insufficient supply of oxygen would lead to unconsciousness and death after about 20 minutes. Anoxia occurred only gradually, with a man starved of oxygen unaware of the fact as he grew successively more drowsy.

### Enemy coast ahead

By the time the bomber group entered hostile airspace, its aircraft had normally reached an altitude of over 20,000ft, roughly between 24,000 and 27,000ft for B-17s and 20,000 and 24,000ft for B-24s, the latter bombers being more difficult to control at the higher altitudes. By this time, any aircraft that had experienced technical difficulties would have aborted the mission and returned to base. In addition, the bombardier instructed the gunners to test-fire their weapons—into the sea if over the Channel for those aircraft operating out of England, or over the Mediterranean or Pacific, if operating in those theatres. The



ABOVE: Eighth Air Force top brass during the April 11, 1944, visit of Allied Supreme Commander Dwight D Eisenhower to the 4th Fighter Group at Debden. In front of the officers' club are (from left) Brigadier-General Jesse Auton (65th Fighter Wing commander), Eisenhower, Lieutenant-General Carl 'Tooe' Spaatz, Lieutenant-General James H Doolittle (Eighth Air Force Commander), and Major-General William Kepner (Eighth Fighter Command commander) NARA

alternative, of course, was simply to fire into the open sky, taking care not to hit other aircraft in the formation.

Necessary though their heavy clothing was, it created problems for men wishing to relieve themselves during such stages of the mission. Sometimes they could make use of a little rubber funnel attached to a hose. Notwithstanding this innovation, with a fleece-lined suit, parachute harness, and flak suit, long underwear, wool trousers, and a heated suit, answering the call of nature remained extremely difficult.

Prior to reaching an altitude at which it was necessary for men to don their oxygen masks, the bombardier went to the bomb bay and removed the safety pins from the ordnance. This task was performed at a relatively low altitude, for at a greater elevation the pins could freeze, thus preventing anyone from arming the bombs. At about the same time, the crew plugged in and switched on their heated flying suits, if the mission required them. The desired temperature was controlled by a rheostat.

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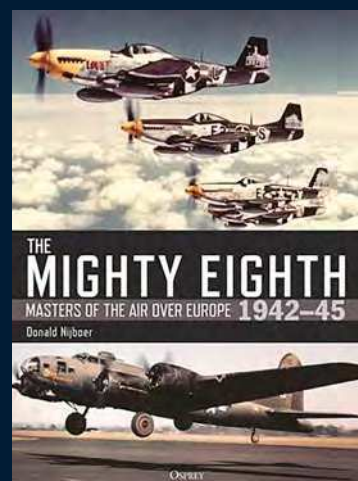
altitude and radio telephones could be used up to 150 miles for bomber-to-bomber communication. Other methods were used to maintain contact with base when flying over friendly territory. Except in rare circumstances, radio silence was strictly maintained over enemy territory to prevent detection.

Meanwhile, navigators used a variety of methods to reach the target—dead reckoning being the most popular— all worked out before the mission began. In order to deceive the enemy as to the objective, bombers rarely followed a straight course to the target, adopting instead a series of changes of course.

As a bomber entered enemy territory, tension aboard the aircraft naturally rose. "The element of fear began to grow within me as we continued onward," Bob Gillman recalled, "and I could see the whole crew beginning to tense up... I quickly reasoned, as I would do many times again, that nothing could be changed. There were no choices here but to go on." Calm as the men may have seemed, in reality many were extremely anxious... **FP**

## THE MIGHTY EIGHTH, MASTERS OF THE AIR OVER EUROPE 1942-45

The book from which this extract has been taken, *The Mighty Eighth, Masters Of The Air Over Europe 1942-45*, by Donald Nijboer is available to buy from Osprey Publishing for £30 via [www.ospreypublishing.com](http://www.ospreypublishing.com)





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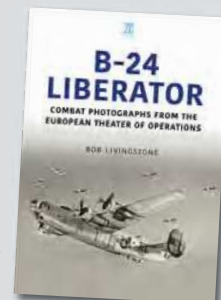
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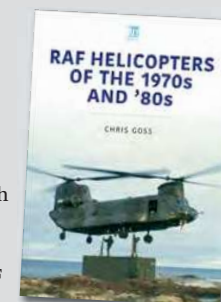
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Emerging from restoration in late 2021, a stunning Cessna Bird Dog joined the UK circuit and has already picked up a prestigious award at Goodwood. **Darren Harbar** goes air-to-air with the Vietnam war specialist aircraft



# Old dog,

**“**It all started with a book,” smiled Shona Bowman while showing me around her and partner Laurie Gregoire’s award-winning Cessna Bird Dog. Sitting on the hallowed grass at Old Warden in Bedfordshire, the aeroplane sports all of the classic lines of the US aviation giant’s world-beating type – yet looks uncharacteristically sinister with a warload of rockets under the wings.

## From A to A

Built in 1951 as part of the second production batch of Cessna model 305As as a L-19A Bird Dog bound for the United States Army, the aeroplane that would go on to become G-VNAM was curiously allocated instead to the United States Air Force (USAF) as 51-4781 – although the service never operated what it designated the O-1A in Vietnam. In fact, it sent all of its As, including

’4781, back to the Wichita, Kansas-based manufacturer for modification to O-1G specification (designated the Cessna model 305D by the US giant), before deploying them to the front line.

This brought them up to the same specification as later production O-1Es (confusingly designated the 305C in-house), with newer avionics and a higher gross weight. The latter allowed it to carry up to eight 2.75in FFAR





Painted in the colours of the USAF 21st TASS during the Vietnam war, the Bird Dog is one of the world's finest restorations  
IMAGES DARREN HARBAR



# new tricks

(Folding-Fin Aerial Rocket) tubes and other stores – including parachute flares, camera pods and field telephone cable laying spools – on the four underwing hard points.

As such, the O-1s used in Vietnam between 1954 and 1975 were significantly heavier than the L-19s (the USAF having changed the designations from L for 'liaison', to O for 'observation' in 1962) that were used during the Korean War.

For the Forward Air Control (FAC) role, the O-1s boasted at least one HF (high frequency) comms/direction finding set for communication with and tracking of ground troops. They were also fitted with a VHF (very high frequency) set for communication with US Navy and Marine Corps aircraft, as well as strike authorisation control (at the time, the US employed a highly complex set of rules of engagement in Vietnam that required all

strikes to be approved) and a UHF (ultra-high frequency) set to communicate with USAF assets, as well as an automatic direction finder. On top of all of that, most airframes were fitted with both TACAN (tactical air navigation) and IFF (identification, friend or foe) sets, too.

Of note, O-1Ds (even more confusingly designated the model 305B by Cessna!) that were fitted with variable pitch propellers and often outfitted with





ABOVE: Internally, the Bird Dog is immaculate with so much fine attention to detail, from the upholstery, dials and switches, through to map boxes and controls

RIGHT: Both Shona and Laurie have dedicated many hours to the restoration of their aircraft and are very proud owners of this most immaculate example

BELOW: The observer's position at the back of the Bird Dog offers plenty of room with the yellow-framed side opening windows providing excellent visibility, and there's even a reversible seat if required

two of each radio set, were quickly nicknamed the 'Dog' as they were constantly operating well over the type's maximum all up weight!

With such an array of equipment, FACs soon became wizards at managing the various radio and airborne assets, while keeping a look out and using the aeroplane's Perspex windows as a makeshift whiteboard with their Chinagraph pencils.

*Golf-Alpha-Mike* is partially modified to the standard of a Vietnam-era 'G', with all the equipment modifications. However, it boasts only a small number of the variant's structural changes, as many of the needed parts are no longer available.

Since the A model was produced in by far the greatest numbers with more than 2,400 examples rolling out of the factory between 1950 and 1953, the US Army ordered an extensive spares package with each of its original batches. As such, a large amount remain today, scattered around various suppliers in the US, including complete 'new, old stock' wings and fuselages – if you know where to look.

In fact, such was the extent of the spares available when sold off by the US military during the 1970s and 1980s, Odessa, Texas-based Ector Aircraft managed to build dozens more 305As, marketing them as the Ector Mountaineer. These had the type's original 213hp Continental O-470-11 engine, while the Ector Super Mountaineer was equipped with Lycoming's 300hp O-540-A4B5.

The Bird Dog design itself was a hasty collection of existing Cessna parts put together to meet the US Army's tender to replace its venerable Piper L-4 and Stinson L-5s of World War Two vintage.

195 Businessliner. The wing came from its all-metal 170A, which boasted added dihedral and new slotted flaps that extended to 60°.

Coupled with a significantly larger engine than the US Army originally specified, the result – which flew for the first time on December 14, 1949 – was an impeccably stable, lightweight aeroplane that handled beautifully and boasted an incredible short field performance. It was perfect for the observation role.

The wing design proved so good that Cessna adopted it for the 170B it introduced during 1952 (which shared a production line with the 305), before it ultimately morphed into the indomitable Cessna 172 four years later and which of course is still in production today,



With the specifications calling for a two-seat liaison and observation machine that could take off and land within 600ft, cruise at 89mph, boasted an observation speed of 49mph, climb at 800fpm, have three-hour endurance, a service ceiling of 16,000ft, and weigh 1,000lb empty, Cessna designed an all-new fuselage and married it to the tail feathers from its





making it the most produced aeroplane in history. At 71 years old, G-VNAM is now one of the oldest examples of the Bird Dog to still grace the skies.

### Inspired choice

Actively used by both military and civilian operators since rolling off the production line in 1951, the aircraft ultimately arrived in the UK under the ownership of Shona and Laurie in 2017.

Boasting a wealth of aviation experience and knowledge, both are commercial pilots, while Laurie is also a highly skilled licensed aircraft engineer.

Both are also no strangers to vintage aviation – Shona regularly captains the delightful Scillonian Airways Dragon Rapide (G-AHAG) and the pair also own

a Piper Super Cub. For Shona, the Bird Dog has a personal place. She recalled: “When I was 17, I had just finished my PPL [private pilot’s licence] and was flying Super Cubs towing gliders at my local club.

“A good friend lent me a book – *Vietnam Above the Treetops* by John Flanagan.”

For those who haven’t heard of or read *Vietnam Above the Treetops*, it takes you into the heart of Bird Dog operations in the unfriendly skies of southeast Asia, the author recounting his tour as a forward air controller flying with the 21st Tactical Air Support Squadron (21st TASS) during 1966.

Shona continued: “His account and the love and respect he had for the Bird Dog was contagious... I became totally

BELOW: In the observation and communications role, the Cessna Bird Dog proved a valuable platform for identifying targets, providing more accurate information about troop positions using direction finding technology

addicted to the idea of flying one – although at the time there were none in the UK. Ever since then I dreamed of owning one.”

For Laurie, the book was also a significant driving force: “The vivid details of the incredible flying [John] and his colleagues did were Shona’s inspiration for several decades of Bird Dog obsession – which we finally managed to satisfy in May 2017 when we bought the aircraft as a project from Hawaii.” He laughed: “I did promise that it would be flying by Christmas... although I may have neglected to mention which year!”

**“FACs became wizards for management of radios and airborne assets, often using the Perspex windows as a makeshift whiteboard”**

### Well-travelled

But how is it that an aeroplane built in the sprawling city of Wichita ended up in the tropical landscape of Hawaii? While 51-4781’s history is incomplete, it is known that it was initially assigned to train Japanese pilots in the US prior to the end of the Allies’ post-war occupation of the Nipponese nation in 1952.





However, around this time the Korean War was in full swing and most of the Stateside Bird Dogs were hurriedly reassigned to frontline service. As with many aircraft of the period, 51-4781's story disappeared into the mists of war until it reappeared in Japan some time during early 1954 – likely following service in Korea. The aircraft was one of a small number transferred to the East Asian nation under a US Military Assistance Programme (MAP). Pressed into service with Japan's Hoantai (National Security Force) from August 1954 until November 1956, it was transferred to the Rikujō Jieitai (Japan Ground Self-Defense Force) and assigned the serial 11017/JG-1017 just 18 days after the establishment of the Jieitai (Japan Self-Defense Forces).

Remaining in Japan for the next 23 years, a photograph from 1969 reveals the aeroplane set against a backdrop of snowy mountains equipped with skis and carrying the code letter 'N' on its nose. This suggests that the aircraft was then assigned to the Northern Regional Army Aviation Squadron out of Okadama on the island of Hokkaido.

Retired during the late 1970s, '4781 was transferred back to the USAF when the MAP expired and sent back to the US.

Retaining the airframe, the service transferred the Bird Dog to its civilian auxiliary – the Civil Air Patrol (CAP) – in 1982. Officially struck off charge with more than 10,000 hours 'on the clock' soon after, it was added to the US 'N-Reg' as NR5074G (it later became N5074G) on April 20, 1982. However, it must have been in poor condition as it drew the short straw of being allocated to the CAP's Hawaii Kiwi (Hawaii Wing),

which soon passed it on to Soar Hawaii Sailplanes at Honolulu's Dillingham Field, where it logged more than 8,000 hours over the next 35 years under various custodians – including seven years from May 2010 with Elmers Gliders and Sailplanes. With the aeroplane looking for a new home in 2017, Shona and Laurie stepped in with a "silly offer" and it was soon bound for the UK. "It had been on Trade-a-Plane over a year. Some other International Bird Dog Association members had a look for themselves and said it was only good for the engine and data plate – that's all we knew about it!" revealed Shona.

### Salty sea dog

With the aeroplane de-rigged in Hawaii during June 2017, it travelled via Korea, Singapore and the Suez Canal before arriving at Southampton docks four months later. Transported by road to Membury Airfield in Hungerford for restoration, work was soon under way to return the aeroplane to its former glory.

However, with more than 18,000 hours flown – which equates to an incredible 750 days! – and having spent much of its island life exposed to salty sea air, the airframe was incredibly tired.

The restoration began with a full strip down and it became quickly evident that the airframe, though complete, was suffering from corrosion.

Despite flying right up until the end of its Hawaiian adventure, the engine – which was inhibited before leaving Hawaii – was in good condition. As such, it was immediately re-inhibited for long-term storage. But the rest of the airframe needed significant work, with the fuselage needing new frames throughout

ABOVE: This Bird Dog is well travelled having been used in the Far East to train Japanese pilots post-World War Two. It's also likely to have served during the Korean War. It arrived in the UK from Hawaii in 2017

BELOW: The Bird Dog starting to come back together in the hangar at Membury airfield in July 2021, with the USAF markings applied to represent John Flanagan's Vietnam machine





the cockpit area, as well as new skins, v-bars and glazing, while the steel parts in the undercarriage attachments needed replacing, as did the engine bearers. The wings were stripped and put aside until the fuselage was structurally complete. While both appeared in reasonable condition, once opened for inspection several major issues were discovered. The right wing only required new top surface skins, but the left one showed several areas of serious corrosion across the main spar that required a complete rebuild.

With the lower surface skins and ribs remaining assembled throughout, the mainplane was rebuilt in a specially constructed jig that mated the refurbished main and rear spars with new main spar caps – as well as several new ribs, a new inboard leading edge, and all new top surface skins.

Similarly, the control surfaces were all either replaced or reskinned. Larger components, such as the Bird Dog's spring steel landing gear legs, were inspected and reworked using Cessna approved procedures.

Although the majority of 'new' parts were in fact 'new old stock' sourced from

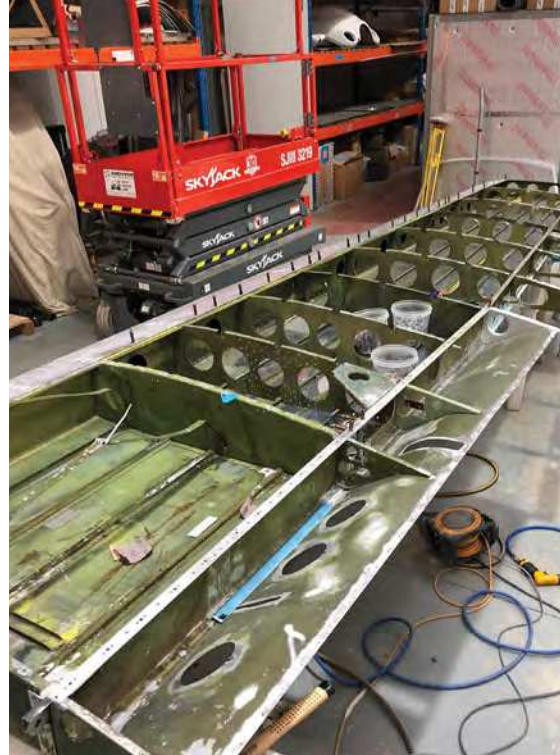
the spares originally purchased with the aeroplane 70 years ago, most were not immediately useable as they required inspection and, in some cases, significant work to bring them up to airworthiness standards.

And due to the age and the number of hours the airframe had flown, every part had to go through a detailed Civil Aviation Authority (CAA) approved return to flight inspection process. Subsequently, barely any part of the airframe was refitted without some level of restoration work.

In fact, every single nut, bolt and fastener was replaced.

With the restoration taking just shy of four years, the Bird Dog returned to the skies in September 2021 – by which time it boasted the appropriate registration G-VNAM having been cancelled from the US Register on July 31, 2017.

From start to finish, Laurie was the driving force behind the restoration – and it's clear that he and Shona intend to fully utilise the aircraft. He revealed: "Although it is a 1949 design, it bears many similarities with the Cessnas that came after and is eligible for a full Certificate of Airworthiness – including



TOP: For the restoration of G-VNAM, the right wing pictured here needed some replacement skins, but the left wing required deconstruction to fix corrosion caused by operating around a coastal area for many years

ABOVE: This image of 51-4781 was taken in Japan, just after the aircraft had been decommissioned from the Military Assistance Program and was awaiting shipment back to the US



IFR [instrument flight rules] flight when suitably equipped. We don't just use G-VNAM for a jaunt for a cup of tea and social visit on a summer's day, but also for touring and travelling – usually to Scotland, where blue skies are not always guaranteed! As such we decided that since various systems such as the instrument vacuum system and heavy old gyros had been removed years ago for glider towing, we would replace them as inconspicuously as possible with enough modern equipment to get us comfortably out of trouble in IMC [instrument meteorological conditions] – similar to what we did when installing modern equipment in G-AHAG... it is all carefully hidden in plain sight, including ILS [instrument landing system] and IFR GPS [Global Positioning System] equipment."

## Flying colours

The choice of scheme wasn't difficult, as Laurie explained with a smile: "Vietnam!"



We decided early on to finish the aeroplane in the markings it would have carried had it been in service in Vietnam – we especially wanted to go for John Flanagan's aircraft due to the influence his book had on us."

In his memoir, John included numerous images of 21st TASS machines, including his 'regular' mount, which sported the name *Red Baron* – the nickname he was given by his squadron mates in recognition of his skill and bravery flying missions and co-ordinating direct air support. Although John was assigned to the 21st TASS in 1966, most of the unit's O-1s were assigned from the various Corp level maintenance pools across Vietnam. As such, the FACs could find themselves flying a USAF-coded machine one day and a US Army one the next day. "The markings are well defined by USAF paint manuals – though all sorts of variations appeared in theatre. John's book was a great reference tool," added Laurie.

Having flown in September 2021, it was a close call as the Bird Dog had been invited to attend the Goodwood Revival's prestigious Freddie March Spirit of Aviation concours d'elegance that brings together some of the most elegant and rarely seen machines built before 1961. When asked about this special opportunity, Shona said: "To be invited to attend the Goodwood Revival and enter their concourse d'elegance was an incredible privilege and an opportunity we were determined not to miss!"

But with the deadline looming, the aeroplane was still not finished – and didn't yet have its Permit To Fly! Shona commented: "With some seriously long days – and nights! – during the last few weeks, we somehow pulled it off and the Bird Dog first flew just a few days before the start of the Revival."

And G-VNAM looked as good as – if not better than – it did when it was rolled out of the factory 71 years ago. "The aeroplane was at its very best

BELOW: Bird Dogs G-PDOG and G-VNAM doubtless won a few admiring glances when positioned together on the grass at Old Warden during The Shuttleworth Collection's Season Premiere event in May 2021

when we arrived," Shona said, adding: "It was still immaculate and looking pristine." With it being the first time many of Laurie and Shona's family and friends had seen it finished, it was an even bigger honour for the pair to walk away with the Freddie March Spirit of Aviation award. "We were absolutely thrilled and surprised to win," said Shona. "It was such an honour, especially as we were among so many other stunning aeroplanes." This is one of the best Bird Dog restorations currently gracing the skies – and it is testament to the pair's hard work.

With its debut air show at The Shuttleworth Collection's Season Premiere in May 2021, it was the first of many public appearances for this stunning aeroplane. Most recently, the aircraft touched down at RAF Fairford in Gloucestershire to join the Royal International Air Tattoo's salute to the USAF's 75th anniversary.

While buttoning up the aeroplane for the evening, Shona said with a smile: "The project came about as a combination of my passion for the Bird Dog and Laurie's amazing technical and practical know-how.

"After all... what's life without a Bird Dog?" **FP**

**"We were absolutely thrilled and surprised to win the Freddie March Spirit of Aviation award"**





# NEW



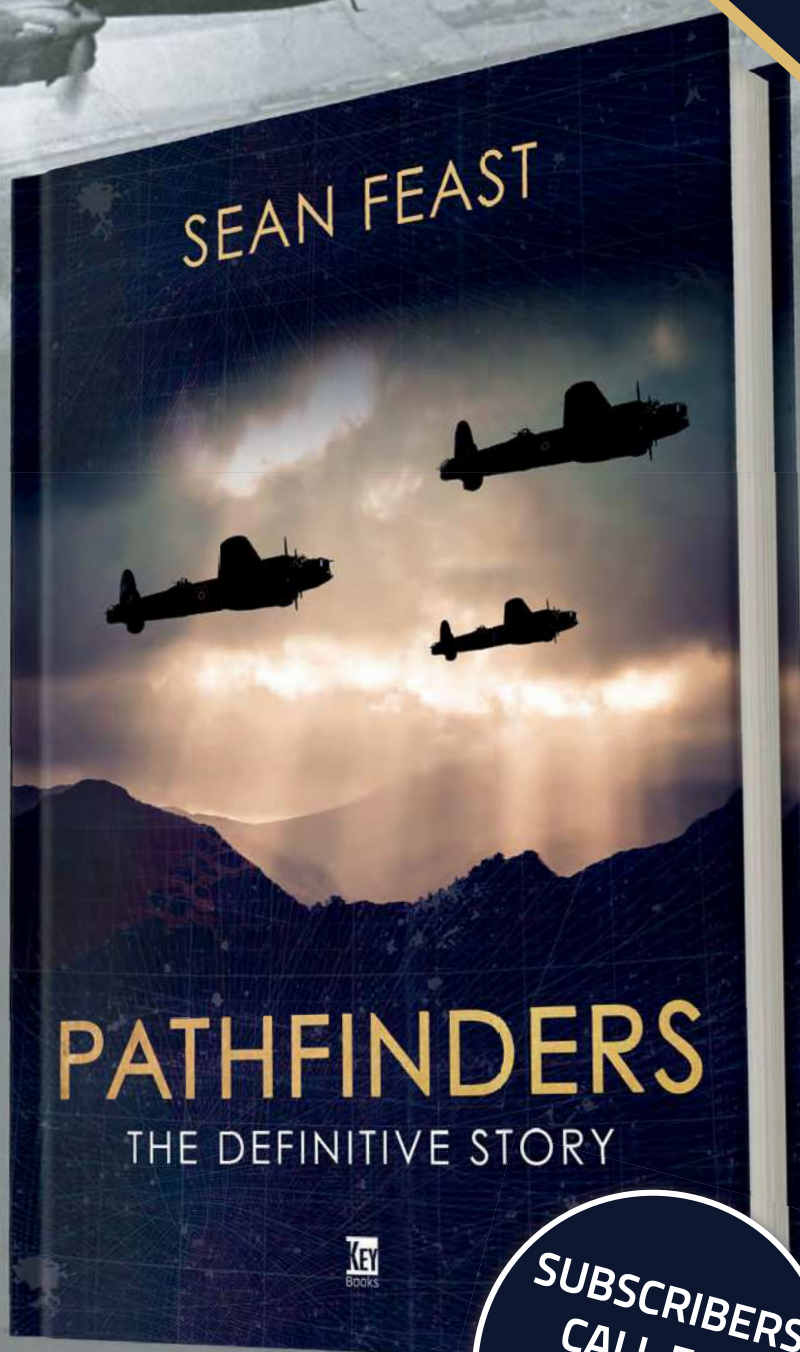
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