

EXCLUSIVE 'DAM BUSTER' FILM INTERVIEWS

The Heart Of
Aviation Heritage

FlyPast

PLUS

The latest
aviation news,
views, reviews
and more

DAMBUSTERS 80TH ANNIVERSARY

DAMBUSTERS

LOW-LEVEL
LANCASTERS

ROLL OF
HONOUR

INTERVIEW:
RICHARD TODD



DAZZLING DEMON

A two decade labour of love...
beautiful biplane flies again

BRISTOL BLENHEIM

Courage and sacrifice in the
face of adversity

June 2023

UK £5.70



nXMO/t2VUzQfUAX1InGf+A==

Restoring this unique machine to airworthiness was an 18-year labour of love for the late Howell Davies
All images by Darren Harbar



“ON LAUGHTER-

Since this article was written, Howell Davies – esteemed owner and restorer of our subject aircraft – has sadly passed away. An RAF veteran whose pilot’s logbook includes Vulcans and Vampires, Howell spent some two decades returning this magnificent Hawker Demon to

the skies. He was a man who won the respect of all who knew him.

We’re publishing this article with the blessing of Howell’s family as a tribute to him, as an inspirational figure...

In June 2009, following 18 years of work, Demon K8203 was reunited with the sky. The gleaming machine might well have brought to mind the words

of *High Flight* poet John Magee – who “danced the skies on laughter-silvered wings”.

The 1937-built aircraft in fact pre-dates Magee’s famous words – it served with the RAF’s 64 and 25 Squadrons, before being struck off charge in September 1940. Many years later, Howell acquired numerous original parts, setting up Demon Displays



The world's only airworthy Hawker Demon is back in British skies – and the fact that it's there at all is the result of a lengthy labour of love. Recently, a new pilot has taken this interwar classic aloft. **Darren Harbar** investigates



SILVERED WINGS”

and registering the aircraft G-BTVE for restoration by Bedfordshire's Skysport.

This superb creation flew on until 2018 when an annual inspection revealed some issues with its Rolls-Royce Kestrel V engine. Steve Roberts and Martin Kimm from Flying Restorations Ltd, who are tasked with maintaining this

classic, liken the powerplant to a thoroughbred racehorse. After giving their charge meticulous attention, the distinctive machine made a second return to flight in July 2022.

Finding a leak

“We'd carried out the majority of the work,” Steve recalled, “but to finish off we ran the engine

to look for leaks. We discovered a water leak. That's no great problem in itself, but it can be time-consuming to sort out.”

Kestrels were hard-working turbocharged engines constructed from a block of aluminium with steel sleeves around the pistons. These sleeves are very thin and coolant runs around them. Running on full power, the

BELOW: Stu Goldspink at the controls of Hawker Demon I K8203 shortly after this charismatic machine returned to flight in 2009

engine can appear to be ‘dancing’ around, moving and expanding, almost inevitably leading to leaks.

The engine blocks were removed and, after some initial work was completed, further test runs resulted in an external leak being discovered – the Kestrel was removed and taken to engine specialists Vintech. It was decided to refurbish the sleeves and replace the seals on both blocks – if one side had gone, it was reasoned that the other was likely to be close behind.

The engine returned to Old Warden in late 2021. It was refitted the following May and

“The Demon is a heavier and more powerful aircraft than any Scott had previously displayed for the Shuttleworth Collection, and certainly different from the airliners he flies”

test runs were successfully carried out. After all inspections and approvals were completed, experienced pilot Stu Goldspink took the aircraft back into the air on July 15, 2022.

You have control

With the Demon now airworthy again, Howell and Stu began to consider adding a new pilot to the roster. They were ideally looking for someone younger, a candidate to fly the aircraft long into the future. Scott Butler, already a Shuttleworth Collection pilot at Old Warden, was the man for the job.

“It was awesome to be asked and I was very excited and quite honoured,” Scott smiled. The Demon is a heavier and more powerful aircraft than any Scott had previously displayed for the Collection, and certainly different from the airliners he flies for easyJet in his day job. During his RAF days he trained on the Tucano, which had a 1,000hp turboprop, so while he was used to having a powerful engine, he pointed out that the

modern machine had a wheel at the front rather than a skid at the back. He had also flown the Kennet Aviation Boeing Stearman that packs 300hp into a 1,200kg aeroplane; the Demon is a comparable scale-up, 2,000kg pulled by 584hp.

Having received the exciting news that he’d be flying the Demon, Scott wanted to be well prepared. “I met with well-known pilot Dodge Bailey to elicit his thoughts on displaying more powerful and heavier aircraft,” he said. “Dodge reminded me that I’d be flying a fighter and I should display it as such.” ‘Don’t fly a DC-3 display’ was one comment that stayed in Scott’s mind.

He therefore set out to read as much as he could on the Demon and the outwardly similar Hawker Hind. “There’s a set of pilot notes and flight reference cards for both the Demon and Hind,” he noted. “There’s also quite a lot of information produced in-house at the Shuttleworth Collection.” Scott also took inspiration from





John Lewis' book *From Bleriot To Spitfire*, which includes a useful article on the Hind. He also utilised Air Transport Auxiliary notes on 'Hart Variants', describing engine start and management – the handling section denotes the Hawkers as being 'easy and pleasant to fly'. Naturally, Scott also sought advice from Stu who talked him through the cockpit, engine handling and tips for flying and displaying the biplane.

A look inside the Demon cockpit reveals that as aircraft design developed, so did the complexity of the controls. Scott said: "The Demon is a step up from Great War aircraft and most inter-war trainers, but the basic layout is very similar. The trim wheel and indicator are on the lower left side of the cockpit, and above them are the throttle and mixture controls.

"The familiar spade grip control has two triggers for the forward-facing 0.303in Vickers machine guns and the rudder

pedals with stirrups have toe brakes behind them.

"Beneath the instrument panel is an indicator marked 'Radiator Out-In' with an associated control wheel on the lower right side of the cockpit. The amount of cooling is controlled by raising or lowering the whole radiator underneath the fuselage, exposing more or less of it to the airflow. The flight instruments are standard with airspeed indicator, altimeter and 'turn & slip'. The engine instruments display rpm, boost, radiator temperature, oil temperature and pressure. The power output of the engine is set by controlling the boost; the pressure output from the supercharger."

Preparing for take-off

Having gained a good understanding of the controls, Scott turned his focus towards his first flight.

"I wrote out a plan and had a copy on my kneeboard," he recalled. "This included a climb

to 3,000ft, level flight at cruise power, general handling, climb to 5,000ft to look at slow flight, a go-around and high speed. Then, back to the airfield for a couple of practise displays."

The big day – August 30 – soon arrived. The conditions were ideal for a first flight on a 'new' type, with wind straight down the runway at about 10-15kts with scattered cloud at 3,000ft. When in service, the Demon would have had a 'team' to see it off, and it still needs one today. The aircraft was 'prepped' by Martin and Steve before Scott did his walkround checks, ensuring that ballast weights were distinctly visible at the rear of the fuselage (essential for flying solo), and air intake blanks were removed.

"I ran through the cockpit checks, checking the flight controls and trims, then exercised the throttle and mixture controls, and confirmed the magnetos were off," he remembered. "The Demon has

CLOCKWISE FROM TOP LEFT: Stu Goldspink and 'rear gunner' Steve Roberts (from Flying Restorations) airborne in the Demon in 2009

An evocative sight over Bedfordshire – an interwar Hawker biplane restored to flight

Demon owner Howell Davies, who sadly passed away recently, in conversation with pilot Scott Butler (right) last year

RIGHT: Inside the front cockpit



RIGHT: The rear gunner's position



RIGHT: The Demon with Ford Model T-based Hucks starter at Old Warden in September 2022

two fuel tanks, a small gravity tank in the top wing centre section and a main tank in the forward fuselage. I turned on the gravity fuel cock in the top wing and noted an increase in pressure on the fuel gauge in the lower right cockpit. Beneath the instrument panel are two other fuel cocks; on the left side is the one for the main tank on/off, and on the right side is the one for primer and hand pump. Both are turned on for the start.

“Then, with the Hucks starter connected by the waiting crew, I was ready to prime with four strokes of the pump while the propeller was turned. Priming completed, the Hucks clutch was disengaged and the crew announced ‘ready to start’. ‘Contact’ I called as I turned the mags on, then ‘ready to start’, and the Hucks drive was clutched in, the propeller turned and the Kestrel smoothly started.

“At this point, the Hucks drive automatically disengaged and the engine continued to run steadily.”

Understandably, the adrenalin was starting to pump at this stage, but Scott’s training and preparation ensured he stayed focused: “After starting, I turned off the primer and gravity fuel cocks and ensured the primer pump was locked in. While doing this I was watching the oil pressure slowly rising. After a couple of minutes at low revs I waved the chocks away and used the taxi time to the far end of the field to warm the engine.”

Scott found the aircraft easy enough to taxi even though the skid isn’t steerable and just castors to follow the direction of turn. In aircraft without brakes, a castoring skid can give very little directional control or ability to turn, but coupled with brakes it’s easily controllable on the ground. That said, the Demon is a big aircraft with a high centre of gravity, so Scott was cautious moving downhill and applied only one brake at a time.

At the runway threshold the groundcrew were already waiting and at Scott’s signal they

chocked the wheels. The Kestrel takes around ten minutes for the coolant to reach 65°C, at which point the engine can be run up. Power checks require two people to weigh down the tail, with chocks in and brakes covered. Scott gently moved the throttle forward to increase power: “The engine speed increased, though the boost still didn’t register. At 1,800rpm I checked the magnetos; with the left switched off it gave a drop of 50rpm, with the right off, a larger drop of 100rpm. The engineers informed me that these drops relate to the layout of the plugs within the cylinders and this difference is normal on the Kestrel.”

Leaving terra firma

With power checks done, Scott throttled the aircraft back to idle, checked the temperatures and trims before waving the chocks away. He was ready to go.

The Kestrel is a ‘right-hand tractor engine’ so, viewed from the cockpit, the propeller turns to the right (clockwise).





This means that when he increased power, the aircraft would 'want' to turn left and needs right rudder to keep it straight. Prepared for this, Scott opened the throttle to start his debut Hawker Demon take-off.

"A quick check in the cockpit, and even though we were accelerating rapidly the power was still not up to zero boost. A forward movement of the control column was enough to raise the tail a little and this caused a noticeable yaw to the left. I gently applied right rudder to correct it, squeezed the throttle forward and zero boost was set.

"The airspeed indicator was showing 50mph and the aircraft was starting to lift.

"I looked ahead, keeping the aircraft straight... and then I was airborne in a Hawker

biplane – what a superb feeling!" Once away from the ground, Scott found that the Demon accelerated rapidly. "I raised the nose a little and held the climb speed of 95mph," he noted. "Turning to the right I was climbing through 1,500ft as I passed overhead the airfield, heading to the north."

Joy of flight

Getting this classic machine airborne was clearly an emotional moment for Scott. As he put the aircraft into a 360° turn, the silver wings caught the sunlight. Later, he smiled at the memory:

"What a sight that was!".

On any new type, it's important to get a 'feel' for the aircraft, so Scott quickly began a sequence to get familiar with the Hawker's

handling characteristics. "I pitched up and rolled to the left in a wingover, then another to the right," he recalled. "The aircraft is light in pitch but less so in roll - the ailerons are large but only on the upper wing.

"Temperatures and pressures were all good; with the power reduced the coolant temperature was reducing but a climb was

BELOW: Scott Butler is the Hawker Demon's newest display pilot



“Getting this classic machine airborne was clearly an emotional moment for Scott. As he put the aircraft into a turn, the silver wings caught the sunlight...”



BELOW: This 2010 image captures the Demon (nearest) taking off with two other classics from Hawker's interwar stable – Nimrod II K3661 and (furthest) Hind K5414

next on the plan so I could leave the radiator down. I added power up to zero boost and raised the nose into a climb. Ahead of me the billowing cumulus clouds beckoned and I weaved my way around them with a grin.

“In just over a minute I was at 5,000ft and reduced the power to allow the engine to stabilise. Then I was ready to look at slow flight. I’d not adjusted the radiator yet, so flying the aircraft with my left hand I reached down to the large wooden wheel on my right. The radiator is supported on bungees, making it easy to raise; a few turns of the wheel and the indicator showed midway point.

“Stalls came next. Height was good at 5,000ft, harness locked, engine checked, location was good with Old Warden to the south. A wingover left, then right, and all was clear below. Reducing the power to idle, the Kestrel didn’t run as smoothly, with a burble and pop as expected from a big engine tuned

to provide power. I held the nose up and noted the airspeed reducing through 60mph. On the upper wings the automatic slots moved out, forwards. Even slower and there was a slight shake through the airframe, the nose gently dropping as the aircraft stalled at something above 40mph.

“I lowered the nose and added a touch of power – it accelerated out of the stall. A stall in a turn proved just as benign, with no noticeable wing drop.”

Homeward bound

Having carried out some general handling, Scott’s focus turned to bringing the aircraft back to Old Warden – and to practise for his forthcoming airshow displays.

“Setting the aircraft up for approach, I trimmed at 70mph, added a little power and flew a 180° turn. Speed is reduced to 60mph for short finals, and the trim wound fully back so I was pushing on the control column to prevent the nose rising and speed reducing further. Passing 400ft

I moved the throttle forward to go-around, the aircraft accelerated and I climbed away.”

Being comfortable with the handling and with the circuit above Old Warden clear, Scott carried out his first practise display in the Demon. “I ran in at 1,000ft, conscious of keeping the aircraft tight over the airfield, managing the energy in order to use the speed past the imaginary crowd, but also using the vertical to keep the radius of turn smaller. After a few runs I departed to the west on a wide circuit.

“I checked the engine functions were all within parameters, and called ‘running in’ for my second practise display.

“Descending in from the north, I made a descending right turn past the tower at 180mph and then down the runway at 100ft. I next pitched up to wingover to a position from crowd right, gently adjusting the power to give me around 90mph at the top of the wingovers. I pulled out of the dive and eased it down to





100ft. Next, I completed a tight left circle around Home Farm, climbing away from the crowd line, apex abeam the farm and a descending turn back to run in from crowd left. One last pass, then I set myself up downwind for my first Demon landing.”

Scott ran through his downwind checks and then commenced the landing phase. “At the end of downwind I reduced the speed to 70mph and trimmed to hold that. Holding a curving right turn on to finals, reducing power a little, I raised the nose and established a gentle descent at 60mph, and wound the trim back. The recommendation is to fly a tail-down wheeler landing with a trickle of power.

“Once down I gently closed the throttle, held the attitude and kept straight as the aircraft slowed down. I then lowered the tail and held the stick hard back so the skid dug in and helped keep me running straight.

“I taxied past the tower to the top of the field – complete with a big grin!”

“Scott went on to fly the silver biplane at last September’s Shuttleworth Vintage Air Show, leading the Gloster Gladiator in a flypast prior to a ten-minute solo display in the autumn sunshine”

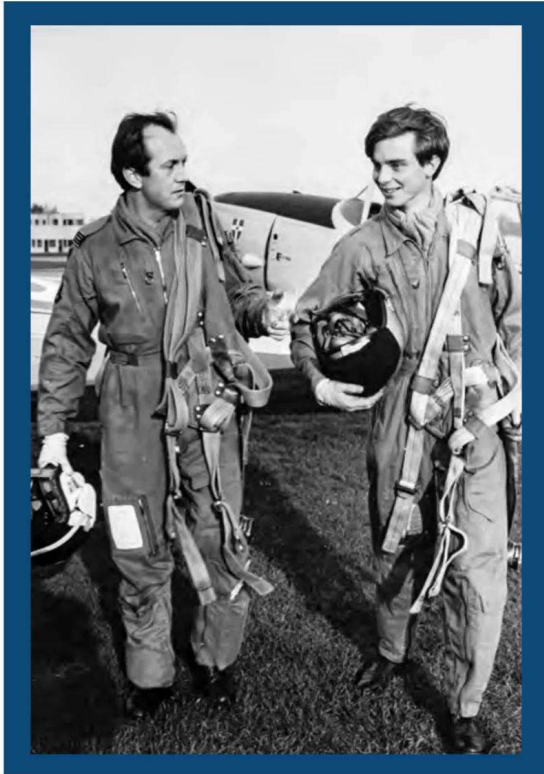
Scott went on to fly the silver biplane at last September’s Shuttleworth Vintage Air Show, leading the Gloster Gladiator in a flypast prior to a ten-minute solo display in the autumn sunshine. From an enthusiast’s point of view, it’s never less than a joy to see this charismatic machine in its natural environment – and that’s down to the cumulative efforts of all involved: pilot Scott, the team at Flying Restorations and, of course, the Demon’s much-missed owner, Howell Davies. ●

ABOVE: Scott Butler flying the Demon (right) at Old Warden alongside Gloster Gladiator K7985 last year



FROM TIGER MOTH TO VULCAN

In tribute to Demon owner Howell Davies, we present a short resume of the late pilot's glittering flying career



ABOVE: Howell was passionate about teaching people to fly and loved the DHC Chipmunk. He's pictured in July 1970 alongside an officer cadet
Howell Davies Collection

ABOVE RIGHT: A proud Welshman, Howell added this 1966 image of Vulcan XA907 flying over a partly constructed Severn Bridge to his logbook
Darren Harbar

RIGHT: Howell is awarded his RAF wings at Leeming on completion of training with 3 FTS on April 19, 1963
Howell Davies Collection

Howell Davies was born in Dinas Powys, South Wales on July 5, 1939. Bitten by the flying bug, he won an RAF scholarship, gaining his PPL on Tiger Moths, before heading to London to study medicine. But his passion for flying won over his medical training – he started his RAF career at South Cerney, Gloucestershire, in February 1962 and was commissioned as a pilot officer six months later. After a year training on Jet Provosts he was awarded his 'wings' on April 19, 1963 and posted to Swinderby, Lincolnshire, where he flew Vampires before commencing his bomber career on Vulcans at 230 OCU. His first operational posting was to 50 Squadron at nearby Waddington in January 1967. Following further spells on Jet Provosts and instructing

on Chipmunks, he began a two-year desk job at RAF Brampton, Cambridgeshire, but after some 'refresher' courses he again became operational on V-Force with Scampton, Lincolnshire-based 35 Squadron.

Between 1978 and 1986, Howell was 'flying a desk' during four consecutive staff roles. During this time, the Vulcan deployed in the Falklands War on 1982's now legendary Operation Black Buck. Marshal of the RAF Sir Michael Beetham was involved in the decision to send the Task Force to the South Atlantic. Howell later recalled to his son Peter – aptly illustrating his good humour – how he "poked my head around the boss' door to tell him I was then genuinely one of only two Vulcan pilots current at air-to-air refuelling, and that I had my bag packed". To which Sir Michael apparently retorted: "Oh bugger off Howell, I've got a bloody war to run!"

Another spell as an instructor followed from 1986, with Howell largely managing to avoid desk roles before retirement on his 55th birthday in 1994. To no one's surprise, he joined the RAF Volunteer Reserve the very next day, and spent a decade sharing his immense experience and passion with a new generation of pilots. Howell's four RAF logbooks are as meticulous as they are fascinating, with 5,228.5 hours in types ranging from the humble Tiger Moth to the mighty Vulcan. They detail high and low bombing training runs in North America and Libya, electronic countermeasure exercises, low-level night routes across Italian mountain ranges, fighter affiliation training with Lightnings and Phantoms, and such matters as winter sledges being smuggled in the Vulcan bomb bay from Canada as Christmas presents!

Howell received the pile of parts then constituting the Demon K8203 restoration project as a belated 50th birthday present from his beloved wife Mouse in anticipation of his RAF retirement, so that he wouldn't get bored. After a decade in the RAF Reserves, continuing his flying journey with local sorties and aerobatics for family and friends in civilian flying club rentals, in parallel Howell restored K8203 over 18 years and supported it being displayed until his recent death. ●

