



There's something predatory about the way a Harrier sits on the tarmac. The wings spread over its shadow like Bela Lugosi's cloak; the nose might be pointing at the early morning sun, but the sense is of a raptor stooping on its prey. I continue to mangle metaphors as I walk towards it with studied nonchalance. The sun glints on the canopy and a new one comes to mind; this time it's that wall-eyed stare that a stallion gives you just before it bites your face off.

This is my first meeting with the deadliest combat aircraft of all time. Let me tell you how I came to be here.

I've never understood why standing in front of a camera pretending to be someone else should entitle one to any privileges, but when the chance to strap into something really special crops up I'm willing to relax my principles just a touch.

It was one of these occasions that led to me finding myself standing in the

GENTLY GOING

VERTICAL

Aviation addict Martin Shaw is frequently to be found going nowhere particularly quickly at the controls of his 1944 Piper L4 Cub. But from time to time he's been lucky enough to play with some very special toys, including a flight alongside Jon Corley in our Vampire T55.

In 2003 he was invited by RAF Wittering to sample the vertical delights of a two-seat Harrier. In the process he encountered agricultural graffiti and a pair of turning trousers. Here's the story as told to *The Meteor*.



65hp of snarling power. Martin's regular mount warms her old feathers in the sun.

Photo: Jem Shaw

gunner's position in a Fairey Swordfish. I'd been asked to present a video for Flying Legends and the script called for an airborne sequence in the dragonfly-frail warbird that crippled the Bismarck. I generously agreed to suffer in the name of art.

At the time my own mount was a Boeing Stearman, so I was used to big-boned, hefty biplanes. Or at least I thought so until I prepared to scale the north face of the Stringbag. My boyhood Airfix collection

included the occasional 1/32 model among my 1/72 air force. Alongside Duxford's collection of veterans the Swordfish gives the same impression. On reaching the summit I discovered that WW2 torpedo gunners travelled economy class: seats were an optional extra. I was strapped to four eyebolts on the cockpit floor that would allow me to traverse my gun to any point of the compass, allowing me to shoot off any control surfaces that obscured my view of the enemy.



Photo: Colin J. Williams

The ensuing flight included a weightless moment that I'd rather expected from the moment I saw the harness. The pilot asked me if I was feeling OK and, on receiving an affirmative, bunted the nose sharply

down. Floating two inches above the floor in an open-cockpit aeroplane is an experience given to few. Fortunately.

Back on the ground we came to a halt next to the BBMF guys, who wanted to know why I was wasting my time flying with the Crabs. And it was that gentle ribbing that ignited a sequence of events that would put me in an unjustifiable number of celebrated cockpits.

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First was a flight in a Jaguar from Coltishall. This is the aircraft criticised by Tornado drivers for requiring reheat to taxi. When you're used to a 220hp Stearman or a 65hp Cub, such things are relative...

I was feeling lucky enough already, but then a pilot from the base explained to me that my clearance for the flight indicated that I'd been identified by the MoD as an unlikely threat to British security. He forecasted future flight invitations.

Which brings me to the northbound carriageway of the A1, destination Wittering. I've been invited to take the rear seat of the physics-defying Harrier. As I turn into the airfield gate I see the stoop-shouldered beast standing guardian at the entrance. With every square inch of under-wing area crammed with pointy aggro it looks slightly less welcoming than the unfriendly end of an Mi-24 attack helicopter.

The welcome from my hosts is significantly warmer. I'm introduced to "Wam" Wharmby, my PIC for today, and the preparations begin...



Ready for the greatest ride at the funfair. Martin carefully limits his grin to avoid the top of his head falling off.

The RAF has an obsessive attitude to safety, an attribute which I wholeheartedly applaud. Even though today will be little more than a joyride, I'll be experiencing G-forces vastly outside my sheltered experience. And because I'll be in a Harrier, they'll be coming at me from vectors that don't reside in three-dimensional space.

I'm subjected to a thorough medical by the station doctor and he introduces me to my G-suit, or turning trousers as they're more usually known. I receive my instructions for surviving high-G manoeuvres. The trousers will tighten to keep the blood from pooling in my lower limbs, but I'll need to tense my lower abdomen and breathe hard. I'm pleased that he checked my pulse rate and blood pressure before he told me this; it's all starting to feel a bit serious.

Now I move on to have my head examined. Not a psychiatric assessment of my suitability for the experience but a thorough series of measurements to allow my helmet to be tailored exactly. There's no 'Stick that on your head and hold tight.' here; your head has to fit the helmet like blancmange in a bowl, for distressingly similar reasons - as I come to understand later.

The quartermaster inspects my fit-out and makes a few adjustments, tightening my helmet strap to jaw-immobilising rigidity. "You don't want that to move if you have to go out through the roof. Believe me, there are people here who know."

I find out later that Wam, my pilot today, joined the Caterpillar Club when he banged out of a Harrier following a catastrophic engine failure. The canopy failed to eject and he fractured a vertebra through opening it somewhat more manually.

Next for inspection is my oxygen mask. He tightens the straps enough to threaten the structural integrity of my cheekbones. "That uncomfortable?"

"A 'it, 'es"

"Not tight enough then." This time I hear a faint creak from the bridge of my nose.

encases me. I hope the lack of foresight doesn't become more than inconvenient.

We walk out to the ramp and the noise of a jet engine warming up greets us. I smell jet fuel and the steam hammer in my chest shifts up a gear. As we turn the corner of the building I see it crouching angrily.

Wam begins a thorough inspection of his airframe. The ground crew call me "sir" and I look around for an officer. Up the ladder and I lower myself into the cockpit. With every appearance of confident familiarity I begin connecting myself to the aeroplane. My confidence evaporates rapidly as I contemplate the array of tubes, plugs and straps. I surrender to my ignorance and sit quietly while I'm plumbed in.

The final procedure is to remove the pins from the seat and place them into slots on the coaming, where they can be checked off by the ground crew.

"OK sir, the seat is now live."

My helper descends the ladder. I'm now sitting on enough explosive to propel a very expensive seat and a more reasonably priced actor

I'm now sitting on enough explosive to propel a very expensive seat and a more reasonably priced actor 100 yards straight upwards.

100 yards straight upwards. I consider this fact as I move my legs forward against the pull-back straps that will hopefully ensure my feet accompany me if I need to leave in a hurry.

Checks complete, Wam closes the canopy and I'm all alone in the aeroplane. The steep angle of the two-seat Harrier's cockpit puts the PIC completely out of sight, meaning that the back-seater has an uninterrupted view forward. I hear a click and Wam's voice crackles

in my headset.

'Everything OK?'

OK is a relative term. Breathing requires a conscious effort and is accompanied by a loud click as the exhaust valve cycles. The straps are testing the breaking strain of my ribs and the facemask has now reduced my sinuses to pinholes..

You know what? I couldn't be happier.

Wam delivers his ejection briefing. "If it all goes wrong I'll call 'Eject, eject, eject.' What you'll hear

is the first two and see a blur from the front seat. You ought to be departing the aeroplane as soon as possible after that."

Ready to go, we taxi out to the runway, receive our clearance and begin our roll. Committed.

We're doing a conventional take-off to conserve fuel and I'm slightly disappointed by the aircraft's acceleration. It gathers speed rapidly, there's no denying, but it's all a great deal more gentlemanly than I'd expected. Nevertheless we reach Vr in remarkably short time and the nose comes up 10 degrees. We hold level for a second and then climb away at an angle that would see a Land Rover falling over backwards. The windscreen is full of sky.

I look out to see another Harrier drop neatly onto our left wingtip. I exchange waves with my opposite number in the rear seat; he's so close I can see the pilot's eyes wrinkle over his mask as he grins back. As we enter cloud he moves closer still.

"Er, Wam, do they always fly that close?"

"Safer that way. If the air's turbulent we hit the same bump at the same time. And in cloud you want to be able to see each other. Don't worry, he's done this before."

Time has distorted somewhat, but it seems to take about three minutes to reach our designated low flying area in the Lake District. Just before we make rapidly for the deck Wam points out to the right. "See that barn?"

It's gone before I've had chance to turn my head. "Missed it, sorry."

"Local farmer got a bit tired of being visited too regularly by the RAF so he painted 'P*** off Biggles' in ten foot letters on the barn roof. Got to be quite a landmark, which meant that everybody diverted here just to see it. Probably not quite what he intended."

It's time for my big moment. Wam takes us up to a safe height and says the words I've been longing for. "OK, you have control."

Wam takes us up to a safe height and says the words I've been hoping for. "OK, you have control."

This is just plain sensational. I pull into a gentle right turn and feel several million pounds' worth of Her Majesty's aeroplane buck obligingly. Even this slight roll and pull back pushes my head into my shoulders and I feel my G-suit tighten perceptibly. The controls are light but full of feedback, with little sense of all the technology between me and the control surfaces. I keep my inputs gentle but it's clear that this thing has a neck-snapping roll rate. I can't believe that it's me flying it. For a few seconds I think of the Brummie kid who spent two shillings on an Airfix P1127 kit. I wish I could tell him that one day he'll take the controls of the real thing.

Wam's voice brings me back to the now. "We're no good to anybody at this height. Get her down."

I gingerly ease the stick forward and drop to 350 feet. "Come on, she won't bite you. Get her down to a man's height."

And suddenly it's the best day of my life. Obeying my hands and feet is not just the greatest combat aircraft in history but, arguably,

the greatest that the world is likely to see, at least until someone re-writes the physics books. The HUD tells me I'm at 250 feet, doing 420 knots. That means a mile blurs under our wings every ten seconds. My vocabulary doesn't contain the tools necessary to describe how this feels. I can see that the ground is rising slowly and I wonder whether pulling back on the stick will elicit a further rebuke from the front seat.

I hear, "OK, maybe not that much of a man's height."

Relieved, I pull back on the stick and this incredible machine responds instantly. I hold at 250ft AGL and realise I'm grinning like



a lunatic.

All too soon Wam either decides he's risked enough of the taxpayers' money for today or just gets bored with my somewhat conservative pilotage.

"I have control."

The nose comes up sharply and I swear I can feel the aircraft wake from its doze. We dart for a dip between the hills, over-banking to half inverted as we pull through the turn. I look *up* into the startled eyes of a farmer sitting on his tractor. I imagine a whiff of diesel fumes in my oxygen mask. We begin the greatest ride at the funfair. Every few seconds Wam's voice comes through my earpieces. "OK?"

"Better than!"

We dart for a dip between the hills, overbanking to half-inverted. I look up into the startled eyes of a farmer sitting on his tractor.

We roll this way and that and I concentrate on tensing as the G hits. Fences, trees and church spires flash by as we thread the patchwork valleys of Cumberland. Then, suddenly, we crest a brow and Lake Coniston opens before us. We roll inverted and head for the water, flipping upright at an altitude that makes ducks more aptly named than they'll ever realise. I imagine Donald Campbell cresting the choppy waves to set a world record at half this speed, and then...

we're at the other end, the seat compressing my spine as we thump upwards to clear the rearing mountains.

I fight to get my lungs working again and manage to gasp out a joyous string of expletives. I'm answered by a satisfied chuckle.

"Still OK?"

I fight to get my lungs working again and manage to gasp out a joyous string of expletives. I'm answered by a satisfied chuckle.

Back at Wittering we land briefly so that Wam can demonstrate a tactical take-off. In this mode the jet nozzles are angled to provide a downward vector, while still providing forward thrust. The result is, frankly, ridiculous. There's a moment of eyeball-squashing acceleration and then the aircraft literally leaps into the air; the nose comes up and the HUD rattles off a climb rate that blurs the numbers. I have friends who transferred from Harriers to Tornados and never got over the loss of power. Man has yet to devise anything that accelerates like a Harrier.

A quick circuit and we land again, this time to demonstrate this spectacular machine's *piece de resistance*, the vertical take-off. I've flown in helicopters many times; I know what VTO feels like, so I'm expecting no surprises.

I'm completely wrong.

The sensation of going straight up in a conventional aircraft is just plain crazy. The brain rejects it as an impossibility. I'm struck by the quaintness of the small weather vane in front of the windscreen. In my glider-flying days we'd have a piece of string taped to the canopy as a simple slip gauge. It's encouraging to feel that technology still hasn't come up with anything better.

Now comes a hand-over I'd never dared to expect. "Do you want to try the hover?"

Of course I do! With confidence ringing in my voice I reply, "Ulp!"

Wam's briefing makes it all sound deceptively simple. Part of the genius of the Harrier's

design is that the control inputs are basically identical in the cruise or the hover. Piece of cake.

"OK? You have control."

Tick, tick

"I have control."

A brief explanation of where it all went wrong and Wam hands over again. "You have control."

Tick, tick, tick.

"I have control."

We try a couple more times and finally it all falls into place. I'm proud to say that this grey-haired amateur demonstrated the skills necessary to balance an aeroplane on a column of expanding gas.

For eight seconds. And then it decided to go over there. Sideways.

"I have control."

This talent is a useful grounding for hovering, provided you can do it while balancing a pencil on its point and conducting the Hallé Orchestra.

I've always felt that my coordination was pretty good. Rubbing my stomach and patting my head has never posed too much of a challenge. This talent is a useful grounding for hovering a Harrier, provided you can do it at the same time as balancing a pencil on its point and conducting the Hallé Orchestra.

The rigours and excitement of the flight have taken their toll on an aging body and it's with only mild regret that I unlace myself from the aircraft, thank my hosts to the point of embarrassment and climb, a little stiffly, into my car for the drive home. The next day I find that my face is still aching, though not from the iron embrace of the oxygen mask.

Yesterday I flew a Harrier! If you're still grinning twenty-four hours later, it's bound to hurt.



EDITOR'S APOLOGY

In the last issue of *The Meteor* I inadvertently referred to the Meteor Flight's founder as Oliver Rhodes. Of course, this should have read **Colin** Rhodes, the man to whom we owe the existence of our wonderful Queenie. I'd like to take this opportunity to apologise for my mistake and make it completely clear that no disrespect was intended to this sadly missed, inspired engineer.

JS

1912



Thomas Octave Murdoch Sopwith establishes the Sopwith Aviation Company at Brooklands in June 1912



Harry George Hawker, having left Australia in 1911 to pursue a career in aviation, joins Sopwith Aviation in 1912 as a mechanic, becoming Chief Test Pilot in 1914

1920



The threat of a punitive tax bill following Sopwith Aviation's success in WW1 leads TOM Sopwith to liquidate the company. He and Harry Hawker, along with Fred Sigrist and Bill Eyre, each put in £5,000 to create a new aircraft manufacturer. The new company is christened H.G. Hawker Engineering.

1933



Hawker acquires the Gloster Aircraft Company, which is struggling financially in the global depression.

1934



Hawker merges with Armstrong Siddeley/Armstrong Whitworth to form Hawker Siddeley, also taking in A.V. Roe & Company (Avro). Despite the new name, the company continues to manufacture aircraft under the subsidiary companies' brands, e.g. Hawker, Gloster, Folland, Avro, etc.

HAWKER HERITAGE

It's easy to underestimate the significance of the Hawker name until one traces it forwards and backwards through time. Yet there's a direct line from Thomas Sopwith through to today's BAe Systems, taking in on the way such magical names as Avro, Gloster and, of course, Hawker itself.

When a 22 year old car mechanic arrived in England in 1911 from his native Australia, only he knew where his future lay. Harry George Hawker had become obsessed with aviation when he saw a demonstration in Melbourne. He travelled to the UK and offered his mechanical skills to the newly-formed Sopwith Aviation Company. Persuading TOM Sopwith to teach him to fly, Hawker showed immediate talent and rose quickly to become Sopwith's chief designer.

When Sopwith, faced with a crippling - and largely arbitrary - tax assessment, liquidated in 1920, its founder had no qualms about naming a new organisation after his former employee.

Hawker died on 12 July 1921 when his Nieuport crashed at Hendon. Though the cause of the crash was never established, it seems likely that he suffered a spinal haemorrhage, possibly as a result of spinal tuberculosis. The great aviator would never see the iconic aircraft that would celebrate his name for decades to come.

1963



Scottish Aviation Ltd



The company drops all subsidiary marques and re-brands all of its aircraft as Hawker Siddeley. As a result the P1127 becomes the last aircraft ever to carry the Hawker name.



BAe

1977



BRITISH AEROSPACE
Nationalisation merges Hawker Siddeley with the British Aircraft Company (BAC) and Scottish Aviation to create British Aerospace. It was re-privatised in 1988.