



John Laming. Aircraft and other stuff.

Captain Eric 'Winkle' Brown – obituary.

Captain Eric “Winkle” Brown, born January 21 1919, died February 21 2016

A Record-breaking Royal Navy test pilot who contributed immeasurably to the advance of naval aviation



Eric “Winkle” Brown



Captain Eric “Winkle” Brown, who has died aged 97, flew 487 different types of aircraft, made 2,407 deck landings at sea and 2,721 catapult launches, world records unlikely ever to be broken.

Brown flew every major combat aircraft of the Second World War including gliders, fighters, bombers, airliners, amphibians, flying boats and helicopters and his contribution to aviation research covered transonic flight, assessment of German jets and rocket aircraft, rotary wing flight, and the first carrier deck landing of a jet aircraft.

Eric Melrose Brown was born in Edinburgh, where he attended the Royal High and excelled both in the classroom and, despite his pint size, on the sports field. His father was a Royal Scots who had transferred to the Royal Flying Corps and then to the RAF when it was formed in 1918.

In 1936 Brown’s father took him to the Olympics in Berlin, where they met Herman Göring and Ernst Udet, both First World War fighter aces. Udet took young Brown flying in a two-seat Bucker Jungmann from Halle airfield and, after throwing the aircraft around the skies, declared that Brown had the temperament of a fighter pilot and must learn to fly. In 1938 Brown again visited Germany, where he witnessed a Focke-Wulf 61 helicopter being flown by the aviatrix Hanna Reitsch. Brown was a student teacher at Schule Schloss Salem in Germany when he was woken one morning in 1939 to be told: “Our countries are at war”; he was arrested by the SS and escorted to the Swiss border. An SS officer allowed him to keep his MG Magnette motor car, telling him: “We have no spares for it.”



Brown had learnt to fly in the University Air Squadron and on reaching Britain he volunteered for the Fleet Air Arm. His first operational appointment was the 802 Naval Air Squadron, flying the Grumman Martlet from the escort carrier Audacity, providing fighter protection to North Atlantic convoys. He was twice involved when his squadron shot several German long-range bombers and was awarded the DSC for his bravery and skill in action against enemy aircraft and in the protection of a convoy against heavy and sustained air attacks. Audacity was torpedoed and sunk in December 1941: Brown was one of only two survivors among the aircrew.

Though never a formally qualified test pilot, Brown’s flying ability was so outstanding that he was sent to the Royal Aircraft Establishment, Farnborough, to trial the newly naval versions of the Hurricane and Spitfire. He also trialled the landing arrangements in new carriers, suffering a rare mishap when in September 1943 he crashed a Fairey Firefly on the deck of the carrier



Pretoria Castle. He hit the crash barrier, sheared off the undercarriage and shredded the propeller but was unhurt.



Eric Winkle Brown in later life.

By December 1943 he had already clocked up some 1,500 deck landings on 22 ships. In 1944 he was appointed MBE for outstanding enterprise and skill in piloting aircraft during hazardous aircraft trials.

Between 1944 and 1950 Brown was successively chief naval test pilot at Royal Aircraft Establishment, commanding officer Enemy Aircraft Flight and commanding officer Aerodynamics Flight, the zenith of experimental test flying. In the Enemy Aircraft Flight he renewed his pre-war acquaintanceship with Germany and he pithily observed the characters of those he met: Werner von Braun and Hellmuth Walter (impressive), Raeder (very mellow), Dönitz (cold fish), and Göring (quite charismatic), Udet (second only to Richthofen in flying ability but out of his depth as head of a technical department), and Hannah Reitsch (complex and a personal follower of Hitler). Of Josef Kramer and Irma Grese, the commandant of Bergen-Belsen concentration camp and his assistant, Brown commented: "Two more



loathsome creatures it is hard to imagine”, adding that Grese was “the worst human being I have ever met.”

He summed up aircraft in the same way: the captured German Me 163 rocket plane was suicidally dangerous in his view, and the ME 262 jet (right) was the most formidable aircraft of the war. Among British aircraft the twin-engined Hornet was “the hotrod child”, the de Havilland 108 a killer, and the Seafire IIB was “simply the best.”



In 1948 Brown was awarded the Boyd Trophy – for the finest feat of aviation during the previous year – for his work on trials of a rubber deck.

Only in 1949 was Temporary Acting Lieutenant Commander RNVR (Air) Brown granted a permanent commission in the Royal Navy. That year he also suffered one of his rare accidents, when a prototype jet-powered flying-boat fighter, known unaffectionately as the Squirt, struck flotsam in the Solent and sank beneath him.

Brown was responsible for many important “firsts” in carrier aviation, including the first carrier landing using an aircraft equipped with a tricycle undercarriage, which he thought one of the greatest advances in naval aviation, on the trials carrier Pretoria Castle on April 4 1945. He also performed the first landing of a jet aircraft on a carrier, a de Havilland Sea Vampire on the carrier Ocean on December 3 1945. When he reported, however, that only pilots of exceptional skill like himself would be able to repeat the operation safely, the Admiralty immediately ordered repeat trials by others which were also carried out safely.



In the 1950s during the Korean War, Brown was lent to the US Naval Test Centre at Patuxent River, Maryland, where he introduced to the US Navy the then new British concepts of the angled flight deck. It was during this period that he achieved a very large proportion of his world record number of land-ons and take-offs. The first catapult assisted take-off was while Perseus was still alongside, the wind on the day being so slight that the British decided that they would risk their pilot if the Americans would risk their aircraft.

In 1954 Brown was given command of 804 Naval Air Squadron, flying the Sea Hawk fighter-bomber (right) and in 1957 he returned to Germany to train up the new German naval air arm to NATO standards, and was asked to help the Focke-Wulf company as a test pilot.



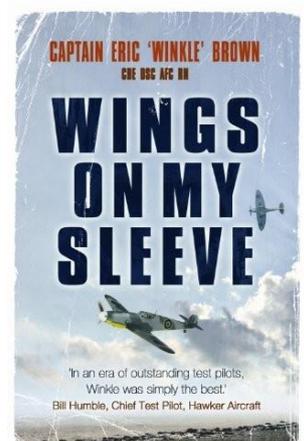
Promoted to captain in 1957, Brown served in the Admiralty as deputy director Naval Air Warfare, where he played a key role in the development of CVA01, a new large carrier which was eventually cancelled by the Labour government. He thought Denis Healey, the defence secretary, was personally motivated to destroy the Fleet Air Arm because he wanted to save money; Brown challenged Healey at a briefing in the Ministry of Defence: "Are you still a Communist?"

He also helped obtain the McDonnell Douglas F-4 Phantom fighter and Blackburn Buccaneer low-level bomber for the Fleet Air Arm. He served as naval attaché in Bonn from 1965 to 1967 and commanded the RN Air Station Lossiemouth (1967-70), but Brown's asperity and his single-minded advocacy of naval aviation meant there was no room for him on the flag list and he retired in 1970 when he was appointed CBE.

He became chief executive of the British Helicopter Advisory Board, where he thought his achievements were overlooked compared to his work as a test pilot. His vision included a nationwide network of heliports, the first of which was at Blackfriars, and he promoted the air ambulance and police helicopter services, as well as advocating the acquisition of all-weather helicopters and of simulators, and he helped found the European Helicopter Association.

He received the King's commendation for valuable service in the air and the Air Force Cross, was president of the Royal Aeronautical Society, honorary fellow of the Society of Experimental Test Pilots, a Master Pilot of Russia, and was inducted into the USN's carrier test pilot hall of honour.

Brown enjoyed a third career as an aviation author and lecturer and at aged 90 was still a much sought-after lecturer on cruise liners. In 1962 he had been ordered to write a short autobiography that would help recruitment for the Fleet Air Arm and in 2006 this was revised and published – free, he claimed, of petty censorship and security concerns, as *Wings on My Sleeve*. Among his numerous other books and articles





were Wings of the Luftwaffe (2002) which sold more than 100,000 copies.

Brown reckoned few among his equals, recognising only Adolf Galland, Frank Whittle and Denis Campbell (inventor of the angled flight deck for aircraft carriers) as having contributed almost as much as him to the advance of aviation. His diminutive size earned him his nickname, Winkle, which he said naturally devolved on him after the death in action in 1942 of Lieutenant Commander Eugene Esmonde VC DSO.

He retained his Scots burr and his sense of purpose throughout his life, answered hundreds of letters by hand, spurned computers, and lived for 30 years at Crawley under the Gatwick flight path.

Eric Brown married Evelyn (Lynn) Macrory in 1942; she predeceased him in 1998 and he is survived by their son, and his companion Jean who would “come on visits”.



Losing skills and losing control.

Dave Unwin
Pilot's Flight Test Editor.

On the 28th December 2014, an Indonesia Air Asia Airbus A320 departed Surabaya for Singapore and around fourteen minutes after take-off levelled out at its cruise altitude of FL 320 in Day IMC. Less than twenty minutes later the aircraft crashed into the Java Sea, killing all 162 passengers and crew. Astonishingly, when the cockpit voice recorder and flight data recorder were recovered from the sea, they revealed that the only abnormality had been a series of four identical ‘cautions’ flagged on the master warning panel, concerning the status of both RTL (rudder travel limiter) units.





The accident investigators noted that these warnings were generated by a known fault on this particular aircraft; a cracked solder joint that was causing a loss of electrical continuity to both RTL channels. While in response to the first three cautions the captain had reacted correctly by following the appropriate drill, after the fourth he did not reset the two flight augmentation computers (FACs) as he should have done, but instead tripped and reset the circuit breaker for each one in turn. Using this unapproved procedure in flight meant that neither FAC returned to normal functionality: instead the flight control system reverted from 'normal law' to 'alternate law' and both the autopilot and auto-throttle disconnected automatically. Although the aircraft remained eminently controllable - the flight controls and instruments were all still functioning, the pilot flying (the first officer) lost control almost immediately with excursions in roll and pitch peaking at 104° left wing down and 45° nose up respectively,

After initially climbing at 11,000fpm the aircraft stalled (incredibly the IAS dropped as low as 54kt) and then descended at up to 20,000fpm. From the autopilot disconnecting to impact with the sea took barely four minutes.



During the descent both pilots continued to make side-stick inputs. but as control had not been passed, either verbally or by the captain pressing and holding his side-stick take-over button, their inputs were summed. (The captain would have needed to hold the button down to override the first officer's side-stick, and press it continuously for forty seconds to take full control). The pros and cons of side-sticks verses yokes aside - or even the fact that when you're



descending at 20,000fpm forty seconds might be all the lifetime left to you - one question is inescapable: why weren't two commercial pilots with over 22,000 hours of flight time between them able to hand-fly in IMC?

Intrigued, I asked some very experienced jetliner pilots of my acquaintance for their views. One 747 Skipper felt that part of the problem was an over-reliance on 'the automatics', and that where once a pilot was expected to disengage the automatics and hand-fly if the autopilot was struggling to cope, these days the situation is reversed. and if the pilot is struggling they engage the automatics! Several felt that many modern airline Pilots lacked basic airmanship skills, a deficiency exacerbated by the quality and quantity of their training, both initial and recurrent. This paucity of skill is then compounded by the fact that many airlines actively discourage hand-flying. When cruising at say Mach 0.8 even just half a degree of pitch can generate rates of climb or descent of around 500fpm, and delicate touch is required - a touch that can only come with practice.

Along with 'good hands', you would think that an adequate understanding of the aircraft's systems would also be a prerequisite, yet it is apparent from reading the report that both pilots' knowledge of their aircraft was woefully inadequate. And it seems to me truly astonishing that even that most basic requirement of actually knowing who is in control at any given moment was missing.



Commercial Air Transport remains one of the safest ways to travel, but nevertheless there is a worrying, increasing trend of entirely avoidable accidents. As with most accidents, this one features a chain of causal links (from inadequate maintenance to improper procedures) and the removal of any one of them could have prevented disaster. Indeed, there are so many issues to be considered, from cultural differences to systems knowledge, that there simply isn't room to address them all here. However, there is one lesson that is relevant to all pilots and that is simply to 'fly the wing'. Why weren't two commercial pilots able to hand-fly in IMC?

Irrespective of all the mistakes they made, if this crew had simply got the wing flying again they would have had a chance of recovering the aircraft. Note that power isn't always your friend, and particularly in the situation they found themselves in. Underslung jet engines have a tendency to pitch the nose up when power is applied and this is far from desirable when you already have (as they did) a huge angle of attack of 48°. "Unload for control" was a maxim drummed into me at the start of my flying career and it is increasingly apparent that this and far too many of the other 'basics' are being either ignored or simply forgotten.

On my very first flight (in an ATC T-21 glider, some forty years ago) it was made perfectly plain to me that if the instructor said "I have control," then that was exactly what he meant — and I

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Vol 54

Page 16

was expected to reply "you have control" and remove my hands and feet from the stick, rudder pedals and spoiler lever immediately. Some airlines are belatedly looking at including 'upset training' for their pilots, but we all know that to be truly proficient at anything not only requires good initial and recurrent training but also practice and this included hand flying.

Unfortunately, even in the simulator the emphasis is on the correct use of the automatics and I have heard that on some aircraft the quick access recorder will flag up any instances where the autopilot is disengaged for more than three minutes in the cruise. And this is the real tragedy, in the modern world it is easier for an airline pilot to fly their aircraft the way his company asks him to rather than to risk his career improving his flying skills.



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Vol 54

Page 16

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