

Iconic Emil



Lt Col Robert 'Cricket' Renner profiles the Flying Heritage Bf 109E. John Dibbs photography

Paul G Allen started his collection of warbirds in 1998 with the goal of acquiring, preserving and flying iconic World War Two aircraft. Now known as the Flying Heritage and Combat Armor Museum (FHCAM), these warplanes are restored to the highest standard of authenticity. Currently expanding into a third hangar at Paine Field in Everett, Washington State, FHCAM has operated an extremely rare Messerschmitt Bf 109E-3 for almost a decade.

When it was introduced in 1935 the Bf 109 was an advanced fighter with technological innovations including an all-metal monocoque construction, stressed-skin, enclosed cockpit and retractable landing gear. First seeing combat in the Spanish Civil War (1936-1939), the Bf 109 served the Luftwaffe, and several other countries including Bulgaria, Croatia, Finland, Hungary, Romania and Italy, to the very end of the conflict.

Pilots complained about the poor ground handling qualities of the Bf 109, lack of rearward visibility and short range. Nevertheless, the Bf 109 was an extremely successful fighter.

Modifications throughout the fighting saw more powerful engines, better cannon, plus the addition of armour plating, and bullet-resistant canopy glass; all of which helped it remain a potent adversary for the duration of hostilities.

Wilhelm Emil 'Willy' Messerschmitt's incredible machine chalked up many notable achievements. Its pilots destroyed more enemy aircraft in air-to-air battles than any other fighter, before or since. Just over 100 of the German 'aces' scored over 100 'kills', and 13 aces had over 200 victories in the Bf 109. The two pilots with over 300 kills both flew the Bf 109: Gerhard 'Gerd' Barkhorn (301) and Erich 'Bubi' Hartmann,

the most successful combat pilot ever, with 352 victories.

The Bf 109 is the most widely produced aircraft of its type in history, with over 34,000 manufactured.

Combat veteran

FHCAM's Bf 109, US civil registered as N342FH, was built at the Erla Maschinenwerke factory at Leipzig in October 1939 as an E-3 variant - known as the 'Emil'. Part of a batch

of 484 built between August 1939 and May 1940, it was werk number (manufacturer's serial number) 1342. ➔





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John Romain with 1342 outside the FHCAM hangar. VIA JOHN ROMAIN

It was fitted with a 1,175hp (876kW) Daimler Benz DB 601Aa 12-cylinder, liquid-cooled, inverted 'vee' engine. Armament comprised two geared 7.9mm MG 17 machine guns mounted over the engine and firing through the propeller and two MG/FF 20mm cannon in the wings.

The Luftwaffe accepted 1342 around the end of October 1939 - it was issued to Jagdgeschwader 51 (JG - fighter wing) and assigned to Feldwebel (RAF equivalent to flight sergeant) Eduard Hemmerling of the unit's 6th Staffel.

Artwork was painted on under the cockpit of a 'verschupfte rabe' (a runny nosed raven) with the phrase 'Gott Strafe England' (May God Punish England). The raven caricatured British Prime Minister Sir Neville Chamberlain. The emblem was relocated to the aft fuselage in April 1940.

Hemmerling fought in the Battle of France and shot down an RAF 54 Squadron Supermarine Spitfire on July 7, 1940 over Dover and a Bristol Blenheim two days later near Cap Blanc Nez.

The first phase of the Battle of Britain began on July 10, and on the 29th Hemmerling was escorting a force of 48 Junkers Ju 87 'Stuka' dive-bombers and was engaged in a dogfight over Dover. He shot down a British aircraft - his third aerial victory. However, 1342 was also hit in the combat and Hemmerling turned back towards France. He didn't make it and crashed on the coast of Cap Blanc Nez. The 27-year-old Luftwaffe pilot died of his injuries.

Beachcombing

A man walking on the beach near Calais in 1988 noticed a piece of metal sticking out of the sand. It was the wingtip of Bf 109 1342 and the hulk was recovered from its watery grave.

The Messerschmitt was sent to

England for restoration at Craig Charleston's Charleston Aviation Services workshop near Colchester in Essex. It was placed on the British civil register as G-BYDS in November 1998 for New Zealand-based Sir Tim Wallis's Alpine Fighter Collection.

Prior to first flight, the Messerschmitt was acquired by Paul Allen and it was registered to Flying Heritage as N342FH in November 2004. The first engine and taxi runs were carried out at Wattisham, Suffolk, in February 2005.

Shipped to the USA, 1342 was re-assembled at Arlington, Washington and then Steve Hinton carried out the Bf 109's first flight in 68 years on March 22, 2008. Happy with its performance, Hinton ferried the fighter to Paine Field.

Too soft, don't fly!

Only a few warbird pilots have experience in an original Messerschmitt fighter. One of those is the well known John Romain of the Duxford-based Aircraft Restoration Company. He describes what it's like to fly the Bf 109E-3.

"It is not that often you are asked to fly an original Bf 109, especially an E-model, so you can imagine my delight at being asked to fly the Flying Heritage and Combat Armor Museum's example in Seattle. The aircraft in question has original combat history, including the Battle of Britain, and has been restored to exacting standards.

"Luckily, I have now accumulated a few hundred hours flying '109s and [Spanish-built, Rolls-Royce Merlin-engined] Buchóns. The first '109 I ever flew was an E-model in Canada that was owned by the Russell Group. Nowadays my normal seat comes in our Buchón 'Yellow 10' based at Duxford.

"So, why am I flying this example? The engineers at FHCAM wanted to have some comparison with



A run-up of the engine of 1342 before its first post-restoration flight.



The ergonomic, but cramped, cockpit of the Bf 109.

"Once airborne, the first thing you notice is how light and responsive the ailerons are. You also notice how good the view actually is in flight"





A view of a Bf 109 on the beach at Calais in 1940. It is thought this aircraft could possibly be 1342.

other '109s and in particular the other E-model. Their aircraft had been through an engine change, brake upgrade and other issues that demanded a set of known parameters for the future. It was a great opportunity for me to put engineering and flying together."

Without detailing the cockpit layout, check lists and all the pre-flight inspections, what is an E model like to fly?

"The main consideration for anyone flying a '109 is to understand the geometry of the undercarriage, and how that can cause you issues, particularly on take-off. In addition, a good understanding of the engine and propeller will certainly help.

"In comparison to the Buchón or G-model, the Bf 109E is light and responsive but the systems are

different, and mainly mechanically controlled by the pilot. However, as with the Spitfire I, when you get used to them they actually add to the experience of the aircraft.

"With the engine started, you will want to get taxiing as soon as possible, especially on a large airport. The aircraft was designed for grass fields, so long taxi distances are not kind to the wheel bearings or brakes. Steering is carried out with rudder, brake and if necessary a burst of power to get the tail to move into a turn. The aircraft is very tail heavy and so it is hard to get the tail turning.

"During the taxi you also get to know the condition of the oleo legs. These need to be firm and not 'spongy', especially the left-hand oleo leg. The torque on take-off will want to compress the leg.

Therefore a 'soft' left leg is going to cause all sorts of problems. The rule is too soft, don't fly!

"Engine run-ups are fairly standard although the propeller is manual and pitch is changed by an electric motor. This is controlled by the pilot, so [there is] no constant speed unit to protect the engine."

Emil airborne

"Take-off is simple if carried out gently and with understanding of how the torque and geometry of the undercarriage will dictate the path. Once airborne, the first thing you notice is how light and responsive the ailerons are. You also notice how good the view is in flight.

"With undercarriage up, cooling doors cranked to the half-position and the propeller at

about 11 o'clock on the gauge, the aircraft settles into a fairly fast cruise at 1,800rpm.

"The handling in roll is very good and normal speeds produce normal elevator control loads. However, at speed in turns or diving, the elevator can get very heavy. The tailplane trim is very good and will take out the loads. However, when performing aerobatic manoeuvres that are pointed at the ground you need to have particular care.

"The aircraft stalls very gently - the slats, which are automatic, simply 'pop out' about 10 knots before the stall. Recovery is easy, and wing drops can simply be countered with the rudder.

"Back to the field and an overhead join into a fairly tight downwind leg for the landing



The '109 lifts up on its first flight since being shot down in 1940.

... you do not want to be on a long, straight final in this type of aircraft. "So downwind, power back and run the propeller up to the 12 o'clock position. As the airspeed drops away, the cooling doors go to full open and the undercarriage is selected down.

"Now at midpoint downwind, I start hand cranking in the flap. Ideally, I want three-quarters flap before pitching in for a nice curved approach to finals. With the speed now settled at 90 knots, I crank in the last of the flap and control the descent with a little power.

"The aircraft is very stable on the approach and can lead you

into a false sense of security - but beware! Before the flare to land, a visual check on the slip indicator is necessary to confirm everything is in balance. Never land a '109 with any drift. It leads to an exciting time.

"At the right time, I close the throttle and start the transition to a three-point attitude for the landing. The aircraft will normally settle down well and track fairly straight until the rudder becomes ineffective at about 30 knots.

"Then you need the brakes if the aircraft decides to depart, and if she decides to, then get her straight again quickly. The heavy

tail will punish you if you allow it.

"Taxi back before the engine gets too hot, clear the plugs with a quick run up to 1,800rpm and shut down.

"With respect, the '109 is a fantastic aircraft to fly, but you must fly her and not let any lack of concentration reverse that into you being flown.

"FHCAM's Bf 109E-3 was a pleasure to fly. Needless to say I would love to do it again soon!"

Special thanks to Mark Sheppard for his research and John Romain for describing what it is like to fly this classic aircraft.

www.flyingheritage.com



The emblem of JG 51.

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