

de Havilland Mosquito

DH.98 Mosquito



Mosquito Mk IV c. 1944

Type Fast bomber, [fighter-bomber](#), and [night fighter](#)

Manufacturer [de Havilland Aircraft Company](#)

Designed by [Ronald Bishop](#)

Maiden flight [25 November 1940](#)

Introduction [1941](#)

Retired [1956](#)

Primary users [Royal Air Force](#)
[Royal Canadian Air Force](#)
[United States Army Air Force](#)

Produced 1940-1950

Number built 7,781

The [de Havilland Mosquito](#) was a [British](#) combat aircraft that excelled in a number of roles during the [Second World War](#). It served with the [RAF](#) and many other air forces both in the Second World War and postwar (see Operators below). The Mosquito was known affectionately as the "Mossie" to its crews. ^[1]^{*[citation needed]*}

The Mosquito was a twin-engine aircraft, powered by a pair of [Rolls-Royce Merlins](#) with the [pilot](#) and [navigator](#) sitting side by side. Unorthodox in design, it used a [plywood](#) structure of [spruce](#) and [balsa](#) in a time when wooden construction was considered outmoded. In the conceptual design stage, de Havilland designers found that adding any defensive armament would significantly reduce the aircraft's maximum speed. Realising that the loss in performance was not worth the benefit, the initial bomber version was designed without any guns. The Mosquito was a very versatile aircraft; originally conceived as a fast day bomber, the various roles of the Mosquito included: tactical bomber, [pathfinder](#), day or night [fighter](#), [fighter-bomber](#), intruder, maritime strike and [photo reconnaissance](#) aircraft.

The Mosquito inspired admiration from all quarters, including the [Commander-in-Chief](#) of the [Luftwaffe](#), [Hermann Göring](#). Göring was due to address a parade in Berlin in the morning of [30](#)

[January 1943](#), commemorating the 10th anniversary of the [Nazis' being voted into power](#). The low level attack of three 105 Squadron Mosquito B Mk. IV on the main Berlin broadcasting station^[2] put Reichsmarschall Göring off the air for more than an hour, as he was about to launch into a scheduled speech.

The [Reichsmarschall](#) was not amused:

“ In 1940 I could at least fly as far as Glasgow in most of my aircraft, but not now! It makes me furious when I see the Mosquito. I turn green and yellow with envy.

The British, who can afford aluminium better than we can, knock together a beautiful wooden aircraft that every piano factory over there is building, and they give it a speed which they have now increased yet again. What do you make of that? ”

— [Hermann Göring](#), January 1943, ^{[3][4]}

The Mosquito inspired a German imitation, the [Focke Wulf Ta 154 Moskito](#), which, like its namesake, was constructed of wood. It was also used as the basis for a single seater heavy fighter the [de Havilland Hornet](#)

Design and development

The de Havilland company conceived the idea of a wooden aircraft to take advantage of the underused resources and skills of the [furniture](#) industry at a time of great pressure on the conventional aircraft industry combined with wartime shortages of [steel](#) and [aluminium](#). The [Air Ministry](#) was initially not interested in the innovative approach; de Havilland, under chief designer [Ronald Bishop](#), developed the Mosquito on a speculative basis. The ministry became interested when they saw the Mosquito prototype's performance.

Throughout the 1930s, de Havilland had established a reputation in developing innovative high-speed aircraft such as the [DH.88 Comet](#) mailplane and [DH.91 Albatross](#) airliner that had already successfully employed the composite wood construction that the Mosquito would use.

Construction



A 1943 advertisement for de Havilland taken from [Flight & Aircraft Engineer](#) magazine

The genius of the aircraft's construction lay in the innovative and somewhat unorthodox use of seemingly commonplace materials and techniques. The bulk of the Mosquito was made of [plywood](#). Stronger and lighter than most grades of plywood, this special plywood was produced by a combination of 3/8" sheets of [Ecuadorean balsawood](#) sandwiched between sheets of Canadian [birch plywood](#). Like a deck of cards, sheets of wood alternated with sheets of a special [casein](#)-based (later [formaldehyde](#)) wood glue.

The fuselage was formed in concrete moulds. Left and right sides of the fuselage were fitted with [bulkheads](#) and structural members separately while the glue cured. Reinforcing was achieved with hundreds of small [brass](#) wood screws. This arrangement greatly simplified the installation of hydraulic lines and other fittings, as the two halves of the fuselage were open for easy access by workers. The halves were then glued and bolted together, and covered with [doped Madapolam](#) fabric.

The wings were also made of wood. To increase strength, the wings were made as one single assembly, onto which the fuselage, once both halves had been mated, was lowered and attached.

Metal was used sparingly in the construction of structural elements. It was mostly used in engine mounts and fairings, control surfaces, and, of course, brass screws.

The glue used was initially casein-based. It was changed to a formaldehyde-based preparation when the Mosquito was introduced to fighting in semi-tropical and tropical climates, after some unexplained crashes led to the suspicion that the glue was unable to withstand the climate. De Havilland also developed a technique to accelerate the glue drying by heating it using [microwaves](#).

In England fuselage shells were mainly made by E. Gomme, Parker Knoll and Styles & Mealing. Wing spars were made by J.B. Heath and Dancer & Hearne. Many of the other parts, including flaps, flap shrouds, fins, leading edge assemblies and bomb doors were also produced in High Wycombe, Buckinghamshire, which was well suited to these tasks due to a well established furniture making industry. Dancer and Hearne processed much of the wood from start to finish, receiving timber and transforming it into finished wing spars at their High Wycombe factory. Around 5,000 of the total 7,781 Mosquitos ever made contained parts made in High Wycombe. ^[5]

The specialized [wood veneer](#) used in the construction of the Mosquito was made by Roddis Manufacturing in [Marshfield, Wisconsin, United States](#). Hamilton Roddis had teams of dexterous young women ironing the (unusually thin) strong wood veneer product before shipping to the UK. ^[6]

Operational service



RAF Mosquito B IV

The Mosquito is often described as having been faster than enemy fighters. On its introduction to service, the aircraft was about as fast as the front-line German fighters that opposed it, the [BF 109F](#) and [Fw 190A](#). Advancements in those aircraft would eventually outpace performance improvements in the Mosquito. Nonetheless their speed margin was slim enough that, by the time those aircraft could reach interception altitude, the Mosquito would have completed its bombing run and would be racing for home. Furthermore, the Mosquito could sustain its dash over a greater distance than the opposing fighter aircraft.

With the introduction of the nitrous oxide boosted Bf 109s and the jet-powered [Me 262](#) late in the war, the Luftwaffe had interceptors with a clear speed advantage over the Mosquito. The **PR Mk 32** photo reconnaissance version of the Mosquito attempted to counter this with long-span wings, special high-altitude superchargers and the elimination of as much weight as possible, raising its cruising altitude to 42,000 feet (12,800 metres). Even with these changes, the Mosquito was not totally immune – in December 1944, one was intercepted at maximum altitude.

RAF Bomber Operations



Mosquito FB VI

The first bomber squadrons to receive the Mosquito B IV used it for several low-level daylight raids. One was carried out in the morning of [30 January 1943](#), against a [Nazi](#) rally in [Berlin](#), giving the lie to the speaker's (Reichmarschall Hermann Göring's) claim that such a mission was impossible. Not content with this, Mosquitos from RAF No 139 Squadron went to Berlin in the afternoon and tried to interrupt an important speech by Dr. [Joseph Goebbels](#), Germany's Propaganda Minister.

Mosquito bomber versions were used as part of [Bomber Command](#); the [Pathfinders](#) in [No. 8 Group](#) and the [Light Night Striking Force](#) (LNSF). The LNSF carried out high speed night raids with precision aiming and navigation. Their mission was twofold: first, they would target small but vital installations; and second, they would act as a diversion from the raids of the heavy bombers, simulating large formations through the use of [chaff](#). On nights when no heavy bomber raid was planned, the LNSF would often strike so the German air defences would not get a rest.

As part of No. 8 Group Mosquitos took part in many bombing operations as pathfinders, marking targets accurately with flares for later attack by massive formations of heavy bombers. Bomber Command Mosquitos flew over 28,000 operations, dropping 35,000 tons of bombs, and losing just 193 aircraft in the process (a loss rate of 0.7%, compared to a 2.2% loss rate for the four engined heavies). It has been calculated that a Mosquito could be loaded with a 4,000 lb. ["cookie" bomb](#), fly to Germany, drop the bomb, return, bomb up and refuel, fly to Germany again and drop a second 4,000 lb bomb and return, and still land before a [Stirling](#) (the slowest of Bomber Command's four-engined bombers) which left at the same time armed with a full bomb load, could strike Germany.

A Mosquito IX also holds the record for the most missions flown by an Allied bomber in the Second World War. [LR503](#), "F for Freddie," first serving with 109 and subsequently 105 Squadron, flew 213 sorties during the war, only to crash on [10 May 1945](#), two days after VE Day at Calgary airport during a victory tour, an accident attributed to pilot error.

Night fighter

The use of the Mosquito as a night fighter came about when the Air Ministry project for a night fighter (based on the [Gloster F.9/37](#)) was terminated to concentrate production on other types. ^[6]

The first fighter Mosquito introduced into service was the NF Mk II in mid 1942, with four [20 mm Hispano cannon](#) in the fuselage belly and four 0.303 in. Browning machine-guns mounted in the nose. It carried Aircraft Interception [radar](#) (AI) Mk IV / Mk V when operating as a defensive night fighter over the UK, although at the time this was omitted from Mk IIs operating as night "Intruders," roaming over Europe at night to cause maximum disruption to lines of communications and flying operations.

In May 1942, the NF Mk II scored its first kill and until the end of the war, Mosquito night fighters claimed approximately 600 enemy aircraft, along with 600 [V-1 flying bombs](#). This variant also operated over Malta, Italy, Sicily and North Africa from late 1942 on. The Mosquito NF XII became the first aircraft to carry the highly effective centimetric radar.

From early 1944 the Mosquito also operated in the bomber support role with Bomber Command's [100 Group](#), their task being to harass the Luftwaffe *NachtJagd* (night fighters) attacking the [bomber streams](#) over Germany. Some 258 Luftwaffe night fighters were claimed destroyed by the Group, for the loss of some 70 Mosquitoes. The omnipresence of the potent night fighter threat led to what the Luftwaffe crews dubbed "Mosquitoschreck" (Mosquito scare), as the German aircrews were never sure when or where they may come under attack from the marauding 100 Group fighters and indirectly led to a high proportion of both aircraft wastage from crashes as night fighters hurried in to land to avoid the Mosquito threat (real or imagined). The Mosquito night fighters would meet their nemesis only in February, 1945, when Messerschmitt 262 jet fighters were being flown at night by pilots from 10./NJG 11. The commander of this unit, Oberleutnant [Kurt Welter](#), claimed perhaps 25 Mosquitos shot down by night and two further Mosquitos by day while flying the Me 262, adding to his previous seven Mosquito kills in "hot-rodged" [Bf 109G-6/AS](#) fighters. This effort was too little and too late to have any effect of the outcome of the war.

Fighter-bomber versions

Operational experience in its varied roles quickly led to the development of a versatile fighter-bomber version; the FB VI, which first saw service in early 1943. The Mark VI had a strengthened wing for external loads and along with its standard fighter armament could carry two 250 lb bombs in the rear of the bomb bay and two 250 lb bombs under the wings, or eight wing-mounted rockets. Later up-

engined versions could carry 500 lb bombs. The FB VI became the most numerous version of the Mosquito, (2,292 built) equipping the day bomber [2 Group](#), the intruder squadrons of Fighter Command and [2nd TAF](#), and the strike wings of [Coastal Command](#), who used the variant as a potent anti-shipping aircraft armed with eight "[60 lb rockets](#)".

One of the higher risk uses of the fighter-bomber Mosquito FB VI was by squadrons of No. 2 Group, [2nd Tactical Air Force](#) in [Operation Jericho](#), a mission to destroy the walls and guards' quarters of [Amiens](#) prison to allow members of the [French resistance](#) to escape.

On [11 April 1944](#), after a request by [Dutch resistance](#) workers, six Mosquito FB VIs of [No. 613 \(City of Manchester\) Squadron](#) made a pinpoint attack at rooftop height on the Gestapo records centre in [The Hague](#), [Netherlands](#). Their bombs, a mixture of high explosive and incendiary, went in through the doors and windows and the incriminating records were burned. Only persons in the building were killed - nearby civilians in a bread queue were unharmed.

On [25 March 1945](#), another similar raid - [Operation Carthage](#) - involved a very low-level bombing attack on the [Gestapo](#) headquarters in [Copenhagen](#), [Denmark](#), which resulted in the accidental destruction of a Catholic school (the French school) causing the death of 86 children, ten nuns, eight teachers and 21 other civilians, together with destruction of the [Gestapo](#) records in the headquarters. Eight [Gestapo](#) prisoners were killed while 18 prisoners escaped. The main attack on the [Gestapo](#) headquarters caused the death of 55 German soldiers and 47 Danes working for the [Gestapo](#). No civilians were killed during the main attack. Four Mosquitos were lost and nine pilots/crew members died. The attack was requested several times by Danish resistance workers, but were found to be too dangerous by RAF. The attack did save the life of many Danish resistance workers, due to the fact that the Gestapo archives and organisation were severely damaged.

USAAF

The USAAF ordered 120 Mosquitos for photographic reconnaissance, but only 40 were delivered and given the US designation **F-8** (6 Canadian-built B Mk VII and 34 B Mk XX). Only 16 reached Europe, where 11 were turned over to the RAF and five were sent to Italy. The RAF provided 145 **PR Mk XVI** aircraft to the [Eighth Air Force](#) between [22 April 1944](#) and the end of the war. These were used for a variety of weather, photographic, and night reconnaissance missions; as [chaff](#) dispensers; as scouts for the heavy bomber force; on "Red Stocking" [OSS](#) missions; and as [H2X Mickey](#) platforms by the 802d Reconnaissance Group (Provisional), later re-named the 25th Bomb Group (Reconnaissance). The 25th BG flew 3,246 sorties and lost 29 PR Mk XVI on operations.

BOAC

Between 1943 and the end of the war, Mosquitos were used as transport aircraft on a regular route over the [North Sea](#) between [Leuchars](#) in Scotland and [Stockholm](#). Lockheed [Hudsons](#) and [Lodestars](#) were also used but these slower aircraft could only fly this route at night or in bad weather to avoid the risk of being shot down. During the long daylight hours of summer, the Mosquito was the only safe alternative.

Because Sweden was neutral, the aircraft carried civilian markings and were operated by Norwegian officers, who were nominally "civilian employees" of [BOAC](#). They carried small, high value cargos such as precision ball bearings and machine-tool steel. Occasionally, important passengers were carried in an improvised cabin in the bomb bay, one notable passenger being the [physicist Niels Bohr](#), who was evacuated from [Stockholm](#) in 1943 in an unarmed Mosquito sent by the RAF. The flight almost ended in tragedy as Bohr did not don his oxygen equipment as instructed, and passed

out. He would have died had not the pilot, surmising from Bohr's lack of response to intercom communication that he had lost consciousness, descended to a lower altitude for the remainder of the flight. Bohr's comment was that he had slept like a baby for the entire flight.

Post-Second World War

Mosquitos flying with the [Israeli Air Force](#) saw action during the [Suez Crisis](#) of 1956. Although, at the time, the Mosquito was being taken out of service, 13 aircraft of various marks were taken out of storage. An additional 13 TR 33 Mosquitos were purchased from a British scrap dealer in 1954.

[Sweden](#) purchased 60 ex-RAF Mk XIX Mosquitos in [1948](#) to be used as a night fighter under the J 30 designation. The planes were assigned to the F1 Wing at [Västerås](#), thereby becoming the first (and only) dedicated night fighter unit of the Swedish Air Force. Its Mosquitos were replaced by jet fighters ([de Havilland Venom](#) Mk 51, designated J 33) in [1953](#). One third of the J 30s crashed or broke down during service, mainly due to rudder problems. However, Swedish air force general [Björn Bjuggren](#) writes in his memoirs that mechanical problems in the swivelling nose-mounted radar antenna caused destructive vibrations that broke apart one or two J 30s in the air.

Notable pilots

- ["Bob" John Randall Daniel Braham](#) – The highest decorated RAF airman of the Second World War and a top night-fighter ace.
- [Branse Burbridge](#) – the RAF highest scoring Mosquito night fighter ace
- [Leonard Cheshire](#) VC – British [No. 617 Squadron RAF](#) commander (and successor to Guy Gibson); one of the most distinguished exponents of precision marking and of the Pathfinders; he later distinguished himself by devoting his life to the care of the disabled and terminally ill and founded the Cheshire Homes. Cheshire's 1944 VC cited his dive over Munich in a Mosquito, enduring "withering" fire for many minutes.^[7]
- [Sidney Cotton](#) – Australian spy and photographic reconnaissance pioneer
- [John "Cats Eyes" Cunningham](#) – British night-fighter pilot
- [Geoffrey de Havilland Jr](#) – son of the founder and chief test-pilot of the firm, carried out the maiden flight of the de Havilland Mosquito.
- [Bill Edrich](#) – English international [cricketer](#), who played against Miller. Graduated from [Blenheims](#) to Mosquitos. Was awarded the DFC and became a Squadron Leader.
- [Guy Gibson](#) – British [617 Sqn](#) commander; killed when his Mosquito crashed in the [Netherlands](#) while returning to England from a mission.
- [Kirk Kerkorian](#) – Worked as a ferry pilot for Mosquitos from Canada to Britain and elsewhere during WWII. The North Atlantic route was dangerous; the pay was high, \$1000 per trip.^[8] with a section of the *Las Vegas Review-Journal* book, *The Top 100*, citing a 1974 biography by Dial Torgerson *Kerkorian, An American Success Story*.
- [Keith Miller](#) – Australian international [cricketer](#), regarded by many as the greatest Australian [all-rounder](#). In later life when asked how he dealt with pressure on the cricket field, Miller replied: "Pressure is [having] a [Messerschmitt](#) up your arse, playing cricket is not."
- [Bolesław Orliński](#) DFC – famous Polish pilot who flew a [Breguet 19](#) from Warsaw-Tokio-Warsaw in 1926 and, with a [PZL P.24](#), set a speed record on [28 June 1934](#). Commanding officer of [Polish 305 Squadron](#)", he flew a Mosquito in a mission against German prison camp in [Lille](#) and a large German fuel dump at [Nomexy](#).
- [Erik Hazelhoff Roelfzema](#) – Dutch resistance fighter and secret agent flew 72 sorties for the 139th Pathfinder squadron and wrote [Soldier of Orange](#).
- [Kenneth Wolstenhome](#) – Was a Flight Lieutenant in [No. 105 Squadron RAF](#). He later became the presenter and commentator on the [BBC Match of the Day](#) football programme. He spoke

the widely repeated words "some people are on the pitch ... they think it's all over ... it is now" as [Geoff Hurst](#) scored the fourth goal in England's 4-2 World Cup Final win over West Germany in 1966.

Variants

Prototypes



A Mosquito PR41 restored to display standard at the Australian War Memorial.



The first Prototype to fly (E-0234 later W4050) being restored at the de Havilland Aircraft Heritage Centre near St Albans.

The original Mosquito design dated from [1938](#), but it was not until March [1940](#) that there was sufficient interest in the aircraft for construction to commence. Three prototypes were built, each with a different configuration. The first to fly was the bomber prototype *W4050* on [25 November 1940](#), followed by the night-fighter model on [15 May 1941](#) and the photo-reconnaissance model on [10 June 1941](#).

- **Mosquito Mk I** : First prototype aircraft.
- **Mosquito Mk II** : Second prototype aircraft.

Photo-reconnaissance aircraft

The photo-reconnaissance model became the basis for the **Mosquito PR Mk I**, while the bomber model became the **Mosquito B Mk IV**, of which 273 were built. The first operational [sortie](#) by a Mosquito was made by a PR Mk I on [20 September 1941](#), and the Mk IV entered service in May [1942](#) with [No. 105 Squadron](#). The **B Mk IV** could accommodate 4 × 500 lb (227 kg) bombs in the bomb bay, and either two drop tanks or two additional 500 lb bombs on wing [hardpoints](#).

- **Mosquito PR.Mk IV** : This designation was given to 32 Mosquito B.Mk IV bombers, converted into two-seat photo-reconnaissance aircraft.
- **Mosquito PR.Mk VIII** : Photo-reconnaissance version. Powered by two Rolls-Royce Merlin 31 piston engines. 25 built.
- **Mosquito PR.Mk IX** : Photo-reconnaissance version based on the Mosquito B.Mk IX bomber aircraft. Powered by two 1,680-hp (1253-kW) Merlin 72 piston engines.
- **Mosquito PR.Mk 32** : Long-range photo-reconnaissance version. Powered by two 1,960-hp (1260-kW) Rolls-Royce Merlin 32 piston engines. Five conversions.
- **Mosquito PR.Mk 34** : Very long-range photo-reconnaissance version. Addition fuel was carried in a bulged bomb-bay. 50 built.

Bomber aircraft

The **Mosquito B.Mk IX** was a high-altitude bomber variant, but the most numerous bomber version was the **Mosquito B.Mk XVI** of which about 1,200 were built. The Mosquito bombers could carry a 4,000 lb. (1 816 kg) "[blockbuster](#)" bomb in their internal bomb bay. This required a bulged bomb bay which could alternatively accommodate up to six 500 lb bombs on an [Avro](#) carrier. Mosquitos were widely used by the [RAF Pathfinder Force](#) which marked targets for night-time [strategic bombing](#). Despite an initially high loss rate, the Mosquito ended the war with the lowest losses of any aircraft in [RAF Bomber Command](#) service. The RAF found that when finally applied to bombing, in terms of useful damage done, the Mosquito had proved 4.5 times cheaper than the [Lancaster](#); and they never specified a defensive gun on a bomber thereafter.^{[[citation needed](#)]} Special [Luftwaffe](#) units (*Jagdgruppe 25* and *Jagdgruppe 50*) were formed to combat the Mosquito attacks, though they were rather unsuccessful and the Luftwaffe considered the Mosquito a superior implementation of their own "[Schnellbomber](#)" concept.

- **Mosquito B.Mk V** : One prototype bomber aircraft fitted with underwing pylons. One built.
- **Mosquito B.Mk 35** : Long-range high-altitude bomber version. Fitted with a pressurised cockpit. 122 built.

Fighter Aircraft

Developed during 1940 the **Mosquito F Mk II** was developed and the first prototype was completed on 15 May 1941. These aircraft were fitted with four [20 mm Hispano cannon](#) in the fuselage belly and four [0.303 in. Browning machine guns](#) mounted in the nose. This fit required the movement of the crew ingress/egress door from the bottom to the right side of the nose. The aircraft also featured a revised windscreen, with flat bullet proof panels in front, as opposed to the original design.^{[[9\]](#)}

Night-fighter aircraft

The first production [night fighter](#) Mosquitos were designated the **Mosquito NF Mk II**. 466 were built with the first entering service with [No. 157 Squadron](#) in January 1942, replacing the [Douglas Havoc](#). These aircraft were similar to the F Mk II, but were fitted with the AI Mk IV metric [wavelengthradar](#). The herring-bone [transmit antenna](#) was mounted on the nose and the dipole [receive](#) antennae were carried under the outer wings.^{[[10\]](#)} A number of NF II's had their radar equipment removed and additional fuel tanks installed for use as night intruders. These aircraft, designated **NF II (Special)** were deployed to Malta on 20 December 1942, and operated against targets in Italy.^{[[11\]](#)}

Ninety-seven NF Mk IIs were upgraded with centrimetric AI Mk VIII radar and these were designated the **Mosquito NF.Mk XII**. The **Mosquito NF Mk XIII**, of which 270 were built, was the production equivalent of the Mk XII conversions. The centimetric radar sets were mounted in a solid "thimble" (Mk XII / XIII) or "bull nose" (Mk XVII / XIX) radome, which required the machine guns to be dispensed with. The other night-fighter variants were the **Mk XV**, **Mk XVIII** (converted Mk IIs), **Mk XIX** and **Mk 30**. The last three marks mounted the [US](#)-built AI Mk X radar.

- **Mosquito NF Mk X**: Unbuilt night-fighter version.
- **Mosquito NF Mk XI**: Unbuilt night-fighter version.
- **Mosquito NF Mk XIV**: Unbuilt night-fighter version.
- **Mosquito NF Mk XV**: This designation was given to five Mosquito B.Mk IV bombers, which were converted into two-seat high-altitude night-fighters.
- **Mosquito NF Mk XVIII**: This designation was given to 100 Mosquitos NF.Mk IIs, which were fitted with the American AI.Mk X radar.

- **Mosquito NF Mk XIX:** Improved version of the Mosquito NF XIII night-fighter aircraft. It could be fitted with American or British AI radars. 220 built.
- **Mosquito NF Mk 30:** High-altitude night-fighter version. Powered by two 1,710-hp (1275-kW) Roll-Royce Merlin 76 piston engines. It also carried early ECM equipment. 526 built.
- **Mosquito NF Mk 31:** Unbuilt night-fighter version.

After the war, two more night fighter versions were developed, the **NF Mk 36** and the **NF Mk 38**.

- **Mosquito NF Mk 36:** Similar to the Mosquito NF.Mk 30 night-fighter, but fitted with the American-built AI.Mk X radar. Powered by two 1,690-hp (1260-kW) Roll-Royce Merlin 113/114 piston engines. 266 built.
- **Mosquito NF Mk 38:** Similar to the Mosquito NF.Mk 30 night-fighter, but fitted with the British-built AI Mk IX radar. 50 built.

To warn German night fighters that they were being tracked by these radars, the Germans introduced [Naxos ZR](#) radar detectors.

Mosquito night intruders of [No. 100 Group RAF](#), Bomber Command, were also fitted with a device called "[Serrate](#)" to allow them to track down German night fighters from their [Lichtenstein](#) B/C and SN-2 radar emissions, as well as a device named "Perfectos" that tracked German [IFF](#).

Fighter-bomber aircraft

The most numerous Mosquito variant was the **FB Mk VI** fighter-bomber of which 2,718 were built. Originally converted from a Mk II, the Mk VI first flew in February [1943](#). Designed for a fighter-bomber role, the Mk VI could carry two 250 lb (110 kg) or two "short-fin" 500 lb (230 kg) bombs in the internal bomb bay as well as two more bombs under the wings. From early [1944](#), [Coastal Command](#) operated Mk VIs armed with eight 60 lb (27 kg) [rockets](#) to carry out anti-shipping strikes.

Other fighter-bomber variants were the **Mosquito FB Mk XVIII** (sometimes known as the *Tsetse*) of which 27 were made by converting Mk VIs. These were fitted with a Molins 57 mm cannon, a [6 pounder anti-tank gun](#) modified with an [auto-loader](#) to allow both semi- or fully-automatic fire, in the nose, along with two .303 in (7.7 mm) sighting machine guns. The Air Ministry initially suspected that this variant would not work, but mock tests proved otherwise. Although the gun provided the Mosquito with yet more anti-shipping firepower to pit against [U-boats](#), it required a steady and vulnerable approach-run to aim and fire the gun, thus making rockets more effective, especially because Mosquitos without the 6 pounder didn't suffer the weight penalty of the gun. The **FB Mk 26** and **FB Mk 40**, based on the Mk VI, were built in [Canada](#) and [Australia](#) and were powered by [Packard](#)-built Merlin engines.

All the fighter variants shared a number of common features. They had a flat, single-piece [armoured windscreen](#) and the pilot was provided with a fighter-style control stick rather than a wheel. The guns in the nose also meant that the bomber variants' entry hatch in the nose had to be relocated to a door on the starboard side, forward of the leading edge.

Training aircraft

The Mosquito was also built as a [trainer](#).

- **Mosquito T.Mk III** : Two-seat training version. Powered by two Rolls-Royce Merlin 21 piston engines. 348 of the **T Mk III** were built for the RAF and [Fleet Air Arm. de Havilland Australia](#) built 11 **T Mk 43** trainers, similar to the Mk III.

Canadian-built aircraft

- **Mosquito B.Mk VII** : Canadian version based on the Mosquito B.Mk V bomber aircraft. Powered by two 1,418-hp (1057-kW) Packard Merlin 31 piston engines. 25 built.
- **Mosquito B.Mk XX** : Canadian version of the Mosquito B.Mk IV bomber aircraft. 145 built, of which 40 were converted into **F-8** photo-reconnaissance aircraft for the [USAAF](#).
- **Mosquito FB.Mk 21** : Canadian version of the Mosquito FB.Mk VI fighter-bomber aircraft. Powered by two 1,460-hp (1089-kW) Rolls-Royce Merlin 31 piston engines. Three built.
- **Mosquito T.Mk 22** : Canadian version of the Mosquito T.Mk III training aircraft.
- **Mosquito B.Mk 23** : Unbuilt bomber version.
- **Mosquito FB.Mk 24** : Canadian fighter-bomber version. Powered by two 1,620-hp (1208-kW) Rolls-Royce Merlin 301 piston engines. Two built.
- **Mosquito B.Mk 25** : Improved version of the Mosquito B.Mk XX Bomber aircraft. Powered by two 1,620-hp (1208-kW) Packard Merlin 225 piston engines. 400 built.
- **Mosquito FB.Mk 26** : Improved version of the Mosquito FB.Mk 21 fighter-bomber aircraft. Powered by two 1,620-hp (1208-kW) Packard Merlin 225 piston engines. 338 built.
- **Mosquito T.Mk 27** : Canadian-built training aircraft.
- **Mosquito T.Mk 29** : A number of FB.Mk 26 fighters were converted into T.Mk 29 trainers.

Torpedo reconnaissance fighter aircraft

To meet specification N.15/44 for [Royal Navy](#) use, de Havilland produced a [carrier-borne](#) variant. This resulted in 50 **Sea Mosquito TR Mk 33s** which featured folding wings, a thimble nose radome and fuselage hardpoints for mounting [torpedoes](#). These were followed by 14 **Sea Mosquito TR Mk 37s**, which differed in having ASV Mk. XIII radar instead of the TR.33's AN/APS-6.

Target tug aircraft

The Royal Navy also operated the **Mosquito TT Mk 39** for target towing. A number of B.Mk XVI bombers were converted into TT.Mk 39 target tug aircraft. The RAF's target tug version was the **Mosquito TT Mk 35** which were the last aircraft to remain in operational service, finally being retired in [1956](#).

Australian-built aircraft

- **Mosquito FB.Mk 40** : Two-seat fighter-bomber version for the [RAAF](#). Powered by two 1,460-hp (1089-kW) Roll-Royce Merlin 31 piston engines. A total of 178 built in Australia.
- **Mosquito PR.Mk 40** : This designation was given to six FB.Mk 40s, which were converted into photo-reconnaissance aircraft.
- **Mosquito FB.Mk 41** : Two-seat fighter-bomber version for the RAAF. A total of 11 built in Australia.
- **Mosquito PR.Mk 41** : Two-seat photo-survey version for the RAAF. A total of 17 built in Australia.
- **Mosquito FB.Mk 42** : Two-seat fighter-bomber version. Powered by two Rolls-Royce Merlin 69 piston engines. One FB.Mk 40 aircraft was converted into a Mosquito FB.Mk 42.
- **Mosquito T.Mk 43** : Two-seat training version for the RAAF. A total of 11 FB.Mk 40s were converted into Mosquito T.Mk 43s.

Numbers produced

Total Mosquito production was 7,781 of which 6,710 were built during the war. [De Havilland](#) accounted for 5,007 aircraft built in three factories in the United Kingdom. Mosquitos were also built by [Airspeed Ltd](#), [Percival Aircraft Company](#) and [Standard Motors](#). The Canadian and Australian arms of de Havilland produced 1,134 and 212 aircraft respectively. The ferry operation of the Mosquito from Canada to the war front was problematic, as a small fraction of the aircraft would mysteriously disappear over the mid-Atlantic. The theory of "auto-explosion" was offered, and, although a concentrated effort at de Havilland Canada to address production problems with engine and oil systems reduced the number of aircraft lost, it was unclear as to the actual cause of the losses. The company introduced an additional five hours flight testing to "clear" production aircraft before the ferry flight. By the end of the war, nearly 500 Mosquito bombers and fighter-bombers were delivered successfully by the Canadian operation. ^[12]

The last Mosquito was completed in November [1950](#); an NF Mk 38 built at [Broughton](#) near [Chester](#).

Preservation



Mosquito B.Mk 35 (RS712) at the AirVenture Museum, Oshkosh, Wisconsin



de Havilland Mosquito B 35 (reconfigured to a FB VI, on display at the Alberta Aviation Museum) in Edmonton, Alberta

There are believed to be around 30 preserved examples at various collections including the [Royal Air Force Museum](#) at Hendon and another (KB336) at the Canadian Aviation Museum in Ottawa. The wooden construction makes restoration difficult.

As of 2004, the original prototype, serial number *W4050*, was undergoing complete restoration in the [de Havilland Aircraft Heritage Centre](#) in [Hertfordshire, UK](#). A restored example is currently on display in the WWII gallery at the [National Museum of the United States Air Force](#). This Mosquito is a British-built B Mk 35 manufactured in 1946, later converted for target-towing, and is similar to the PR Mk XVI's used by the AAF. Having been flown to the Museum in February 1985, suffering several breakdowns along the way and taking many months to arrive, this aircraft has now been restored to a Mk XVI configuration and painted to represent a weather reconnaissance aircraft of the 653rd Bomb Squadron, 25th Bomb Group, based in England in 1944-1945. Another Mosquito is currently under restoration in a hangar at the RAAF Museum at [Point Cook, Victoria](#), Australia.

The last Mosquito known to be airworthy (serial number RR299), a T Mk III built sometime between October 1944 and July 1945, crashed on [21 July 1996](#) with the loss of both crew after stalling during a banked turn at an airshow at the [Barton Aerodrome](#) near [Barton, Greater Manchester](#).

Several potential restorations to airworthiness exist. A flying replica using new wood but otherwise original parts is under construction in New Zealand. Another in New Zealand is being restored for American collector Jerry Yagen, and it is highly likely that this will become the first airworthy Mosquito since 1996. The Mosquito B 35 held in the Experimental Aircraft Association, Oshkosh, Wisconsin, USA was airworthy when owner [Kermit Weeks](#) loaned it to the museum.

The [Canadian Historical Aircraft Association](#) (CHAA) based in [Windsor, Ontario](#) is building a Mosquito from scratch. Glyn Powell located in [Papakura, New Zealand](#) has built a mould for the wooden fuselage, and CHAA bought the very first one ever sold. They have two unused engines still in the crates and some parts retrieved from a crash in the Arctic.

Operators

See also: [List of De Havilland Mosquito operators](#)

-  [Australia](#)
-  [Belgium](#)
-  [Burma](#)
-  [Canada](#)
-  [China](#)
-  [People's Republic of China](#)
-  [Czechoslovakia](#)
-  [Dominican Republic](#)
-  [France](#)
-  [Israel](#)
-  [New Zealand](#)
-  [Norway](#)
-  [Poland](#)
-  [South Africa](#)
-  [Soviet Union](#)
-  [Sweden](#)
-  [Turkey](#)
-  [United Kingdom](#)
-  [United States](#)
-  [Yugoslavia](#)

Specifications (DH.98 Mosquito B Mk XVI)

Data from Jane's Fighting Aircraft of World War II^[13] and World War II Warbirds^[14]

General characteristics

- **Crew:** 2: pilot, bombardier/navigator
- **Length:** 44 ft 6 in (13.57 m)
- **Wingspan:** 54 ft 2 in (16.52 m)
- **Height:** 17 ft 5 in (5.3 m)
- **Wing area:** 454 ft² (42.18 m²)

- **Empty weight:** 14,300 lb (6,490 kg)
- **Loaded weight:** 18,100 lb (8,210 kg)
- **Max takeoff weight:** 25,000 lb (11,000 kg)
- **Powerplant:** 2x [Rolls-Royce Merlin 76/77](#) (left/right) liquid-cooled [V12 engine](#), 1,710 hp (1,280 kW) each

Performance

- **Maximum speed:** 361 knots (415 mph, 668 km/h) at 28,000 ft (8,500 m)
- **Range:** 1,300 nm (1,500 mi, 2,400 km) with full weapons load
- **Service ceiling:** 37,000 ft (11,000 m)
- **Rate of climb:** 2,850 ft/min (14.5 m/s)
- **Wing loading:** 39.9 lb/ft² (195 kg/m²)
- **Power/mass:** 0.189 hp/lb (311 W/kg)

Armament

- **Bombs:** 4,000 lb (1 800 kg)

Avionics

- [GEE radio-navigation](#)

References

1. [^] Also known as "The Wooden Wonder" or "The Timber Terror",
 2. [^] [Berlin, 30 January 1943: postponement of Göring's speech, commemorating the 10th anniversary of the Nazi's seizure of power](#)
 3. [^] [\[1\]](#)
 4. [^] [A similar quote from Göring in German from March 1943](#)
 5. [^] ^a ^b Cole 2001
 6. [^] Buttler, Tony. *Secret Projects: British Fighters and Bombers 1935 -1950 (British Secret Projects 3)*. Leicester, UK: Midland Publishing, 2004. [ISBN 1-85780-179-2](#).
 7. [^] [Daily Mail](#)
 8. [^] [\[2\]](#)
 9. [^] Scutts, 1993. p. 4-5
 10. [^] Scutts, 1993. p. 7
 11. [^] Scutts, 1993. p. 8
 12. [^] Hotson, 1983, p. 77-87.
 13. [^] Jane, Fred T. "The D.H.98 Mosquito." *Jane's Fighting Aircraft of World War II*. London: Studio, 1946. p. 115-117. [ISBN 1 85170 493 0](#).
 14. [^] La Bonn e, Frans. *The de Havilland Mosquito*. World War II Warbirds. 9 February 2001. [\[3\]](#) Access date: 21 April 2006.
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External links

- [The Mosquito Page](#)
- [Fleet Air Arm archive](#)
- [De Havilland Mosquito Page](#)
- [Mosquito Bomber Crews and Their Experiences](#)
- [A flight simulator Mosquito](#)
- [A photograph of the Tsetse Mosquito FB Mk XVIII NT225](#)
- [Video #1 of Mosquito](#)
- [Video #2 of Mosquito - CGI, but very realistic](#)
- [A photograph of the BOAC Mosquito G-AGFV](#)
- [A photograph of the Mosquito prototype W4050](#)

Related development

- [de Havilland Hornet](#)

Comparable aircraft

- [Bristol Beaufighter](#)
- [Junkers Ju 88](#)
- [P-61 Black Widow](#)
- [Petlyakov Pe-2](#)
- [Westland Whirlwind](#)

Designation sequence

- *de Havilland*:
 - [DH.93](#) - [DH.94](#) - [DH.95](#) - [DH.98](#) - [DH.99](#) - [DH.100](#) - [DH.101](#) - [DH.102](#) - [DH.103](#) - [DH.104](#) - [DH.106](#)
- *Pre-1948 USAAC/F*:
 - *Photographic Reconnaissance*: [F-5](#) - [F-6](#) - [F-7](#) - F-8 - [F-9](#) - [F-10](#) - [XF-11](#)

Related lists

- [List of aircraft of the RAF](#)
- [List of bomber aircraft](#)