

## **he DeHavilland Mosquito**

### **ATHENAEUM**

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**Just before the Second World War and just after after it commenced, two books entitled While England Slept were penned - the first by Winston Churchill in 1938 (originally titled Arms and the Covenant) and the second written by John F. Kennedy in 1940 - concerning England's lack of preparation for WW II. While it was quite true that (except for Winston Churchill) The United Kingdom's powers that be HAD their collective heads in the sand from the mid 1930's right up until the first of September of 1939, fortunately for us all, not everyone was asleep.**

**One of those who remained wide awake throughout the 1930's was Geoffrey DeHavilland. Born in 1882, DeHavilland was one of the fortunate few who knew what he wanted to do almost from day one.**

**In 1909 he married Louise Thomas, and immediately embarked on a career of designing, building and flying aircraft. Many DeHavilland designed airplanes were used during WW I. DeHavilland continued to design planes right up to and through the 1950's. In 1947 DeHavilland Canada introduced the Beaver, a versatile bush plane. Some of these are still operational today. In 1949 DeHavilland unveiled the Comet - the world's first commercial jet airliner.**

**As if being a celebrated aircraft designer wasn't quite enough to sustain DeHavilland, there was also a rock solid Hollywood connection. Actress Olivia DeHavilland and her sister Joan Fontaine were first cousins to Geoffrey. Their father Walter and Geoffrey's father Charles were half brothers. And, Geoffrey's wife Louise had previously been governess to Olivia and Joan. Olivia and Joan were at odds with each other (when not - as they frequently were - in actual combat) for most of their lives. Joan Fontaine, for example, took her step father's name, to further distance herself from sister Olivia. Joan did her bit for Britain and America however by being on hand to promote the rollout of the Canadian Mosquito.**

**Before putting ourselves in tandem with Geoffrey DeHavilland in the 1930's, we need to turn back the clock a few years to 1919, and then progress incrementally forward. It has been argued quite convincingly that the extremely harsh terms of the Treaty of Versailles which ended the First World War (or The Great War) on the 28th of June in 1919, began right then and there to set the stage for the rise of Hitler and ultimately World War II.**

**As far back as 1923, Russia was secretly allowing the Germans to test their new military plane designs inside Russia, not far from Moscow. These strange bedfellows were of course using their uneasy alliance to mutual advantage. The Germans were - in violation of the terms of the Versailles**

**Treaty - secretly beginning a military build up and the Russians were reaping the benefits of the German scientists' latest technological developments (which were light years ahead of their own).**

**It must be remembered that Hitler in effect tore up the Treaty of Versailles at the same time that he seized power in 1933 - coincidentally the same year that Franklin D. Roosevelt assumed the presidency.**

**With knowledge thus acquired and planes built in the mid 1930's and plans being laid for a second world war, the German Luftwaffe was able to use the Spanish Civil War (from 1936 - 1939) as a testing ground for their newest military aircraft designs. Even with the handwriting on the wall, the English government was inexplicably slow to realize that the Germans had far superior aircraft designs.**

**A most important subsequent uneasy alliance between Germany and Russia took the form of the Non Aggression Pact that was signed just days before the outbreak of World War II (known as the Molotov Ribbentrop Pact) on the first of September 1939. In it, a principal feature was the dividing up of Poland between the two nations. This allowed Hitler to invade Poland without Russian intervention and simultaneously allowed Stalin to build up the Soviet army unopposed.**

**The meticulous plotter Stalin and the (by comparison) dreamer Adolph Hitler were each doing a careful dance**

**around each other until the 22nd of June 1941, when Hitler unleashed Operation Barbarossa and invaded Russia - bringing their shaky alliance to a violent end. Stalin was expecting this, but not quite so soon. His military buildup in progress hadn't progressed sufficiently to easily repel his former friend and now enemy - when the surprise attack came.**

**Geoffrey DeHavilland's vision of what morphed into the Mosquito crystalized during the 1930's and he poured his own money into its development years before the British government decided that they not only needed but WANTED it. On contemporary observer quipped "they may not want it now, but they soon will". DeHavilland had been convinced for some time that a plane of this type was not only needed, but would prove indispensable to the upcoming conflict.**

**Some - many in fact - consider the DeHaviland Mosquito - affectionately nicknamed "the Mossie" , or the "Wooden Wonder" - to have been the most versatile aircraft ever built. In other circles it has even been dubbed "The Plane That Saved Britain." It was also (if less frequently) referred to by the less catchy phrases " Timber Terror" or the "Loping Lumberyard."**

**By the mid 1930's Geoffrey DeHavilland already had a solid and growing reputation for building high speed innovative aircraft, such as the DH.88 Comet racer - which was designed specifically for and WON the 1934 MacRobertson air race**

from the United Kingdom to Australia. Later came the DH.91 Albatross of composite wood, which concept was adapted for and later used in the construction of the Mosquito.

As early as 1936, the British Air Ministry issued a specification for a twin engine, medium range bomber. In May of 1937 George Volkert - chief engineer for Handley Page - put forward the concept of a high speed UNARMED bomber. DeHavilland ran with the ball, becoming convinced that this was not only a good idea, but an essential one.

The idea of an all wood airplane body was not as radical an inspiration as one might at first suspect. In fact, most of the airplanes used in WW I had wooden frames, covered with cloth. In the Automobile industry, up until the mid 1930's, metal wrapped wood frames were the order of the day. One of DeHavilland's selling points for the Mosquito was the fact that it would not use up the much needed and valuable metals (which were in short supply) and desperately needed for other aircraft production. Also, English cabinetmakers - virtually out of business during the war years - could be (and in fact were) employed in the production of the Mosquitoes. Wood construction saved weight, increased airspeed and significantly reduced construction time - all vital considerations during war time. Also, wood - covered with a layer of doped fabric - creates a dramatically drag resistant surface, free of rivets and seams. Battle damaged planes of

**wood construction could be repaired quickly and easily in the field and wood is easy to work with.**

**DeHavilland began to design the Mosquito on his own in the 1930's, and his son (of the same name) was his chief test pilot. His ONLY support in the Air Ministry was from Air Marshall Sir Wilfred Freeman, who had commanded a squadron of DeHavilland DH-4's in WW I and was therefore intimately familiar with DeHavilland's impressive array of aircraft designs. At one early point, because of this association and general lack of interest in the project, the Mosquitos were referred to as "Freeman's Folly."**

**To keep the development of the Mosquito far away from prying eyes, it was worked on secretly at a remote 17th century manor house - Salisbury Hall - which had been the home of actress Nell Gwynn, mistress to King George II during the 18th century.**

**William Maxwell Aitken - Lord Beaverbrook - who at the beginning of WW II was the Minister of Aircraft Production - three times ordered a halt to Mosquito development and production. Since he never committed any of these orders to paper, Freeman simply ignored them. In a twist of fate, Beaverbrook's son Max later became a Mosquito pilot.**

**So, what exactly was this engineering marvel, that proved to be so effective in WW II, which among its other outstanding virtues had a VERY low casualty rate? It was most significantly a high speed, unarmed bomber of wood bodied**

construction, and further a twin engine, shoulder winged multirole combat aircraft, with Rolls Royce Merlin engines and 3 bladed hydromatic propellers.. Pressed into service a year to the day after the end of the Battle of Britain (on the 31st October 1941), it debuted with technology and aerodynamics far more advanced than that of the Spitfire - and was about 25 miles an hour faster. With a speed in excess of 400 miles an hour, it was the fastest plane in the world when it appeared on the scene.

No other aircraft flew as many kinds of missions or performed them quite as well as the Mosquito. It was one of the world's first multirole combat aircraft. It was built in 33 different variants during the war and 7 more after the war. One of the more interesting of the 33 models was the Tse Tse Mosquito - with a 57 mm cannon attached for attacking U Boats.

The Mosquito amassed a remarkable combat record in a very short time, that no other aircraft ever came close to matching. This unique plane first flew on the 25th of November 1940, and its first test flight was on 10 January 1941. Since it would not enter service for a further nine months, it was a relatively late comer to the war. For the first 2 1/2 years of its operation, the Mosquito held its impressive record of being the fastest aircraft in the world. Eventually, of course, that statistic became outdated, and the German Fockewulf Fw - 190 in particular became a potent Mosquito

**opponent. By 1944 the Messerschmitt had attained the speed of 702 mph. The North American F 82 Twin Mustang (another fantastic plane), which debuted at the end of the war on the 25th of June 1945, was also faster than the Mosquito, but it came along too late to be a challenge - and only 272 were ever produced.**

**The Mosquito was ...**

- an unarmed bomber with a crew of two, able to carry a bigger bombload farther than a B-17.**
- It was also a fighter-bomber and a night fighter with an eight-gun nose battery.**
- It was the most productive photoreconnaissance aircraft of the war.**
- It was A high-speed courier.**
- It was A weather-recon airplane.**
- It was A carrier-qualified torpedo bomber (though too late to see combat).**
- It was A pathfinder and target-marker for heavy bombers.**
- It was The war's most effective extreme-low-altitude intruder.**
- It was A multiengine trainer and a high-speed target tug.**
- (a target tug tows an unmanned drone)**



- It was A decoy frequently used to convince the Luftwaffe that three or four spoof-raid Mosquitos dropping chaff were a bomber stream of Lancasters.
- It was the first war plane to be landed on an aircraft carrier
- Captain Eric "Winkle" Brown was the pilot who successfully landed a Mosquito on an aircraft carrier for the first time, and he holds the worlds record for having flown 487 different types of aircraft - a record which will probably never be beaten.
- It was Dubbed by the forever tongue in cheek British as a "Nuisance" bomber

Many other airplanes did many of these missions, but none of the others did them all. The Mosquito could fly under the radar (literally) at just a few feet above the ground or comfortably at 35,000 feet - or even in extremis at an altitude of 42,000 feet.

The Mosquito had excellent handling capabilities, while at the same time having a number of idiosyncrasies that necessitated its having to be flown by experienced, top of the line pilots. One of these idiosyncrasies was the stall speed of 120 mph. Exact and consistent speeds had to be maintained both on landings and takeoffs, otherwise the plane would stall and quickly fall out of the sky. Also, the Mosquito had poor aileron control on takeoff and landing, which was a problem for inexperienced crews. Experienced Mustang

**pilots frequently remarked that those who weren't and tried to fly a Mosquito, would very quickly feel its sting! The mosquito was a well proportioned plane, described by one of its pilots in these simple words, "It just looks right." And it does. U TUBE provides many videos and programs about the Mosquito**

**Even Herman Goring (Hitler's head of the Luftwaffe) was a fan of the Mosquito. "It makes me furious when I see the Mosquito. I turn green and yellow with envy. The British, who can afford aluminum better than we can, knock together a beautiful wooden aircraft that every piano factory over there is building....They have the geniuses and we have the nincompoops."**

**The Mosquitos were produced in Britain, Canada and Australia. In England alone, 400 companies were involved in their construction. They were sent into service virtually everywhere, including the middle and far East, as well as the Russian front.**

**Interestingly, American General Henry H. (Hap)Arnold was present in England at the testing of the Mosquito in April of 1941, and after assessing the performance as "outstanding" passed the design (with permission) on to the Americans. America never opted to produce any, claiming (erroneously as it turned out) that the Lockheed P-38 Lightning could perform the same functions. Plans for the Mosquito were sent to five American aircraft manufacturers, all of whom**

professed themselves to be unimpressed with this British design. Beechcraft reported, "This airplane has sacrificed serviceability, structural strength, ease of construction and flying characteristics in an attempt to use construction material that is not suitable for the manufacture of efficient airplanes." Beechcraft couldn't have gotten it more wrong if they had tried. Hap Arnold asked for further testing, but to no avail.

The Mosquitoes were not yet operational during the Battle of Britain in the summer of 1940, but even without them the Battle of Britain signaled the first major defeat of the war for Hitler. The Mosquitos first became operational one year to the day after the end of the Battle of Britain - on the 31st of October in 1941.

Almost as if it were a test run, on the 29th of August 1942, Mosquitoes were used in the attack on Pont-a-Vendin, France and successfully repelled their counterparts, the Focke Wulf Fw 190s.

Berlin became a frequent Mosquito target, as the Mosquito had the range to reach it and return to base. By mid 1943, the Mosquitos were bombing Berlin with such regularity that their missions came to be known as the "Berlin Express." They had the initial ability to carry 500 pound bombs and eventually two ton blockbuster bombs at an altitude of 35,000 feet. On the 19th of September 1942 Mustangs bombed Berlin in daylight for the first time.

**The Oslo, Norway Mosquito raid on the 25th of September 1942 was aimed at its Gestapo headquarters, and while hit, it was not destroyed, although 80 civilians were killed. Four Mosquitoes were employed in this less than successful raid, and one was lost. To date this mission was the longest flight ever undertaken by the Mosquito. The very next day was chosen by the British to announce the arrival of the Mosquito (that had actually arrived to do battle almost a year earlier), and the Germans simultaneously announced that several had been shot down, when in fact only one was.**

**The Philips radio and vacuum tube factory at Eindhoven in the Netherlands - during the war - was considered as much a priority target as any in Germany. So on the 6th of December, 1942, 10 Mosquitos, 47 US Navy Venturas and 38 DB 7 Boston Bombers attacked it. It was a resounding success and both factory complexes suffered significant damage and production was stopped. 9 Venutras were destroyed, 4 Bostons were lost, but only one Mosquito. (We see a definite Mosquito survival pattern developing here which would endure for the entire war).**

**On the 30th of January in 1943, two daylight missions over Berlin were timed to disrupt the speeches of both Reichsmarschall Hermann Goring and Propaganda Minister Joseph Goebbels - as they were celebrating the 10th anniversary of the Nazi's coming to power. This raid was a huge psychological success for the Allies and a major**

**embarrassment for the Third Reich. One Mosquito crew was shot down during this operation.**

**1943 also ushered in the Stockholm Express. Neutral Sweden produced ball bearings which were vital to both the Allied war effort and the Third Reich. Being neutral, Sweden was able to furnish vital ball bearings to both sides, and did. Since Britain couldn't fly military aircraft in and out of Sweden, BOAC took over 6 Mosquitos, repainted, relabeled and renumbered them. They were pressed into service between Scotland and Stockholm - from February of 1943 until November of 1944. Sweden exchanged ball bearings for English gold. Diplomatic bags were also ferried on the Mosquitos, as well as single passengers on occasion - mostly to get important people out of Sweden and into Britain, such as famous Danish physicist Niels Bohr..**

**On the 18th of February, 1944 one of the most daring Mosquito raids of the entire war - entitled Operation Jericho - took place at the prison in Amiens, France. Two hundred prisoners of the French Resistance were scheduled to be executed the next day, and the altruistic sounding reason put forth for this mission - both at the time and for years afterwards - was that the Allies were intent on saving as many of these heroic lives as possible. Three waves of low flying Mosquitos were to FIRST breach the wall in a predetermined location, SECOND to bomb the dining hall where the guards were eating and THIRD to finish off the**

**prison once the inmates had escaped. The Mosquitos and accompanying Typhoons came in very low and undetected, and the mission was on the surface a great success. It also sent to the enemy the not so subtle message that the Allies could now place bombs with pinpoint accuracy wherever they wanted to throughout occupied Europe. By this time in 1944, it was becoming somewhat clear that the Allies were taking the upper hand, and victory was somewhere in sight.**

**Of the 832 prisoners at Amiens, 102 were killed by the bombing. (Interestingly, the prisoners - having advance knowledge of the raid - said that they would much rather be killed by Allied bombs than by a German firing squad.) 74 were wounded and 258 escaped. Sadly 2/3 of those who escaped were recaptured.**

**When, in hindsight, we are able to strip the mask away and look behind the curtain of this drama, it turns out that the REAL reason for this derring do Jericho raid was that a particular prisoner there - Raymond Vivant - an OCM Resistance leader was one of the 258 aforementioned prisoners. (Organization Civile et Militaire). The OSS in London was petrified that Vivant might know and release to the Germans vital information about the upcoming D Day Invasion, which was less than four months away - 06 June 1944. Fortunately Vivant was one of those escapees who remained at large.**

**As early as 1937 A4 and A5 German rockets were under development. But, from 1939 until late 1941, Hitler didn't seem to be too concerned with rocket development (and therefore vastly reduced or virtually eliminated funding) , concentrating and relying instead on more traditional forms of warfare.**

**But, after attacking Russia in June of 1941, perhaps Hitler was hedging his bets when late in 1941 he authorized Werner Von Braun to proceed with the rocket program. In March of 1942, the various German rocket tests were all failures. Suddenly, on the 23rd of October 1942, the rocket test was a success and the date has been hailed as the beginning of the Space Age.**

**Pennemunde on the Baltic Sea became the test and development site for German flying bombs. During the first week after D Day in June of 1944 the first V1 bombs hit London, killing 60 people. (Hitler seemed to think that it was more important to demoralize the civilian population than to use the V1's against military targets). While the V1's did extensive damage, only 25% of them hit their marks. Against this new enemy, Hawker Tempests, DeHavilland Mosquitoes and Republic P-47M Thunderbolts were all employed. The Mosquitos destroyed 650 of the V1 flying bombs.**

**In the desperate final days of the war, the Germans unveiled their last ditch weapon, the V2 rocket. Launched against London on the 8th of September 1944, this was the first long**

range guided ballistic missile. Londoners literally didn't know what had hit them, and the government wasn't about to enlighten them. Two months to the day later, on 08 November 1944, the Germans formally announced the arrival of the V2. Conventional weapons were useless against these lightening speed V2 weapons, and the only countermeasures that would be effective were to destroy launching sites and to provide disinformation to the enemy about their intended targets. The Mosquitos stepped up to the plate here too. Fortunately for mankind, when the V2 program became operational it was too little, too late.

Even Barnes Wallis of bouncing bomb fame managed to join forces with the Mosquito. Wallis, we may remember, and his Lancaster launched bouncing bombs manage to breach both the Mohne and Eder dams in the Ruhr Valley and knock out both factories and the local

hydro electric power plant in May of 1943. (See the 1955 film *The Dam Busters* if you haven't). Later he developed and had at the ready a smaller version of the bouncing bomb to be launched from Mosquitos - but the war ended before they could be deployed.

The Mosquito's last mission of the war on the 2nd of May in 1945 - two days after Hitler committed suicide - was the bombing of Kiel, the capital and most populous city in the northern German state of Schleswig - Holstein.



**A Mosquito B.IX holds the record for the most combat missions flown by an Allied bomber in WW II.**

**After the war, the Republic of China had between 150 and 200 Mosquitos in 1947. Mosquitos were used as night fighters in Sweden until 1953. 13 Mosquitos were used during the Suez Crisis. The Belgians had 24 Mosquitos in use between 1949 and 1956.**

**Unfortunately, due to their wood construction and being exposed to the elements for long periods of time, there are precious few Mosquitos left.**

**Thirty non flying Mosquitos are known to have survived to the present. There are 3 in the US, 1 in Canada and 3 in the UK. A couple of these have been restored and flown in the last few years.**

**Having literally just scratched the surface regarding the De Havilland Mosquito's invaluable contribution to the Second World War, enough has been put forward to allow us to consider what would have happened had the Mosquito never been put into production.**

**A few statistics should help. There were 20,351 Spitfires built during the war, and 240 still exist. Next came the B17's. 12,731 were produced. Of these, 4,735 were lost ( or 1/3). 7,781 Mosquitoes were built and entered service. (Amazingly only 92 of the Mosquitos were lost during the war). By comparison to the Mosquito, there were fewer Lancaster**

**bombers - 7,377. Only 3,970 B 29 Bombers were ever produced.**

**The DeHavilland Mosquito was a truly remarkable and unique airplane which played a vital role in World War II. Of the 33 different models produced, there was even a folding wing model.**

**Had it not been one of the major players in these war games, the Second World War would at the very least not have ended when it did. The number produced - 7,781 - and the total number lost - 92, or .7 of all produced - tell the story in the fewest number of words.**

**END**