THE BRISTOL BEAUFIGHTER

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Introduction: Before the Second World War, the multi-engined two-seat fighter had received sporadic attention in most countries. Since a fighter was envisaged primarily as a day interceptor, a task which could be fulfilled most effectively by a less expensive single seat, single-engined machine, little real effort was put into the development of the longer-ranging, heavier combat aircraft. An exception was Germany where the long-range strategic fighter received close attention from the mid-thirties, resulting in the Messerschmitt Bf 110.

The fact that a heavy twin-engined fighter such as the Beaufighter was available as soon as the late autumn of 1940 was largely due to the foresight and enterprise of the Bristol Aeroplane Company which saw the probable need for a high-performance long-range fighter capable of undertaking duties of a more aggressive nature than those foreseen by official specifications. At the end of 1938, L. G. Frise and his design team started on what what was virtually a fighter variant of the Beaufort general reconnaissance and torpedo-bomber. The initial proposal envisaged an aeroplane using a large proportion of Beaufort components, including the wings, tail assembly and undercarriage, a pair of Hercules radial engines and carrying a battery of four 20-mm. Hispano cannon.

The Beaufighter prototype (R2052) had two supercharged Bristol Hercules radials which were mounted well ahead of the wing leading edges to avoid vibration. This necessitated cutting down on other weight forward of the centre of gravity and resulted in the Beaufighter's characteristic abbreviated fuselage nose. Official trials commenced at an all-up weight of 16,000 lb. after the first prototype's delivery to the RAF on April 2, 1940, and a maximum speed of 335 mph was attained at 16,800 feet.

Production: The Beaufighter was the most effective British night fighter until the appearance of the De Havilland Mosquito, and went on to have a second career with Coastal Command, operating as both a long range escort fighter and anti-shipping weapon. It was the most heavily armed Allied fighter of the war. Sometimes considered to be a little too heavy, and with a reputation for being difficult to fly, especially on one engine, the Beaufighter was a more than capable aircraft that also played an important role in the Mediterranean and Far East.

As production continued, additional versions appeared, differing in engines installed and in other ways. Beaufighters were used in many theatres of war and for varied duties, performing particularly well in the Western Desert thanks to their long range. Coastal Command of the RAF received several torpedo-carrying versions which were responsible for sinking a great deal of enemy shipping. The last and most numerous model was the superb Mk X, which could carry a large torpedo or bombs and rocket projectiles, and claimed among its victories several German submarines.

When No 29 Squadron[1] of the Royal Air Force became fully operational with the Beaufighter Mk IF in October 1940, it marked the beginning of operations by a night fighter that was completely capable of performing its task. Although the Bristol Blenheim IF, also equipped with the new (AI) airborne interception radar, was operational in the same period, the Beaufighter had two qualities which the Blenheim lacked—speed and firepower.

RAF Mk IF Beaufighter in Night Fighter Camouflage

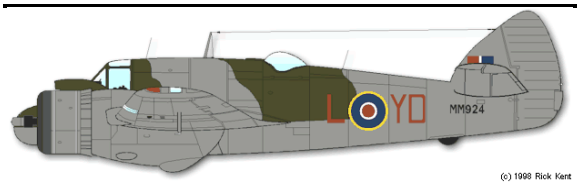
The Beaufighter IF was soon bearing the brunt of the action against German night bombers. Weighing up to 20,800 lb., it attained a maximum speed of 323 mph at 15,000 feet, had a range of 1,500 miles at 194 mph, an initial climb rate of 1,850 ft./min., and a service ceiling of 28,900 feet. Although the Beaufighter IF handled well, it was tricky under certain conditions. There was a strong tendency to swing on takeoff and the danger of flick rolling in the event of an engine cutting suddenly. On landing, the Beaufighter's large flap area pulled the aircraft up rapidly, but there was a tendency to veer from the straight which, if unchecked, resulted in a ground loop.

The first few Beaufighter Is were delivered without wing-mounted machine-guns but six were later installed. Initially it was found that when the cannon were fired, the recoil caused the nose to dip enough for the pilot to lose his target. The seriousness of this fault was such that thought was given to alternative armament., The Beaufighter V was then produced with one pair of cannon and the wing-mounted machine-guns replaced by a Boulton Paul turret containing four .303-in. Guns, mounted just aft of the pilot's cockpit. Only two examples (R2274 and R2306) were completed, both being converted Merlin- engined Mark IIs. These were used experimentally by No. 29 Squadron during the early months of 1942, but the turret drastically reduced performance, and the Beaufighter V was abandoned.

RAAF Beaufighter T.F. Mk X in Coastal Command Camouflage and D-Day Rings

The Beaufighter T.F.X was the final major production variant and passed through several important modification stages without any change in its Mark number. These included the introduction of AI Mk.VIII radar in a "thimble" nose - this radar having been found suitable for ASW use -and a large dorsal fin (after a trial installation on a Beaufighter II, T3032) to give a boost to directional stability. This was linked with an increase in elevator area to improve longitudinal stability. Before deliveries of the Beaufighter X could begin, a batch of 60 Beaufighter VIs with Hercules XVI engines and provision for torpedo-carrying was built. These were designated Beaufighter VI (I.T.F.) - interim torpedo fighter - and were converted to Mark Xs when more Hercules XVII engines became available.

[1] The author's father served with 29 Squadron from Dec 38-Dec 42 and while there recorded 12 of his 19 night victories flying Beaufighters.



RAF Mk. VIF Beaufighter

Beaufighters were also flown by the air forces of Australia, Canada, New Zealand and, in small numbers, by the US. In Britain they remained flying as target tugs throughout the 1950s.

OPERATIONS

Night fighter: The Beaufighter entered service as a night fighter in September 1940, just at the start of the night time Blitz. Very early operations were carried out without radar, relying on ground control, searchlights and luck to find their opponents, a very difficult task. Even so, the Beaufighter achieved its first kill on Oct. 25, 1940, without radar.

The first radar kill was achieved on Nov. 19/20, 1940, by F/L John Cunningham of No. 604 Squadron. Cunningham would become the best known British night fighter pilot of the war, given the nickname "Cat's Eyes" Cunningham as a ruse to explain his prowess at a time when radar was a top secret.

The Air Interception (AI) equipped night fighter only really came into its own in early 1941, after the arrival of improved radar which reduced the amount of "grass" - interference caused by radar signals bouncing back off the surface of the earth. By the time the blitz ended in 1941, Beaufighters were taking a heavy toll of German bombers, claiming 24 victories on May 19/20 alone.

Coastal Command: Coastal Command received its first Beaufighters in December 1940, when No. 252 Squadron began to use the type on long range convoy protection duties. However, the fighter's main role with Coastal Command would be an offensive one. From June 1941 the Beaufighter was used on anti-shipping duties from a variety of bases around the UK, using its cannon as its main weapon.

The power of the Beaufighter as an anti-shipping weapon was transformed during 1942. In September work began on equipping the Mk VIC with rockets, and in November 1942 the torpedo armed "Torbeau" entered service as part of an anti-shipping strike wing based at North Coates, Lincolnshire. This strike wing contained three Beaufighter squadrons, No. 142 with fighters, No. 236 carrying bombs and No. 254 with torpedoes. The fighters would engage any enemy escort aircraft, the bombers attacked any flak ships and the torpedo bombers concentrated on the enemy merchantmen. In March 1943 these wings were further improved when the rocket armed Beaufighters appeared, known as "Flakbeau" because their role was to attack enemy flak ships. In all, 11 Coastal Command squadrons would operate the Beaufighter in British waters.

The Mediterranean: The Beaufighter served as both a night fighter and strike aircraft in the Mediterranean. The first Beaufighter squadron in the Mediterranean theatre was No. 252 Coastal Command which arrived in Malta in May 1941 to make attacks on Axis shipping. It remained in the theatre for the rest of the war. In all, 17 squadrons used the Beaufighter in the Mediterranean. Their roles included defensive night fighter duties protecting British bases in North Africa, Sicily and Italy; night time intruder missions across Italy and the Balkans; and anti-shipping duties all around the eastern Mediterranean. The Beaufighter also had

the range required to provide fighter cover over convoys to Malta for a longer duration than any other British aircraft in the theatre.

The Far East: The Beaufighter earned its most enduring nickname in the Far East. There it became know to the Japanese as the "Whispering Death". The Bristol Hercules engines were amongst the quietest in use at the time, especially when compared to the loud roar made by the Rolls Royce Merlin. As well, the Beaufighter could use its low level speed to make sudden surprise attacks against Japanese supply depots in the Burmese jungle and then disappear as quickly as it came. The first Beaufighter squadron to operate in the Far East was No. 27, which began ground attack missions over Burma in November 1942. The all-metal construction of the Beaufighter gave it an advantage over the Mosquito, which suffered a series of mysterious crashes in the Far East, blamed at the time on problems with the glue used in its wooden construction.

In all, eight Beaufighter squadrons served in the Far East, three as night fighter squadrons, initially defending India, and later flying intruder missions over Burma. Of the remaining five squadrons, two began with anti-shipping duties (Nos. 22 and 27), then joined the final three flying ground attack missions against the Japanese positions in Burma. Another three Australian squadrons (Nos. 30, 31 and 93) also used the Beaufighter against the Japanese.

Conclusion: When the last Beaufighter (SR919) left the Bristol Aeroplane Company's Weston-Super-Mare works on Sept. 21, 1945, a total of 5,562 aircraft of this type had been produced in the United Kingdom. Of these some 1,063 were Mark Vls and 2,231 were Mark Xs. During its operational career the Beaufighter had played a prime role in defeating the Luftwaffe's night attacks in the Blitz of 1940-1941, and it had operated in every major campaign of the war. It carried out the very last operational sortie of the European war, a strike against German shipping in the Skagerrak, and served with distinction in the Pacific until the capitulation of Japan. The Beaufighter may have been the product of improvisation but it was a remarkably successful one.

CANADIAN BEAUFIGHTER OPERATIONS

In addition to the many Canadians who flew Beaufighters with distinction in RAF Squadrons, there were four RCAF Squadrons equipped with the aircraft in a variety of roles.

404 (Buffalo) Squadron: The squadron was formed at Thorney Island in Sussex, England on April 15, 1941, under Royal Air Force operational control. Tasked with coastal patrol and attack, the squadron initially flew the Bristol Blenheim Mk.IV and later the Beaufighter and Mosquito. From May 1944 to September 1944 No. 404 was based at RAF Davidstow Moor in Cornwall. The squadron disbanded on May 25, 1945.

Beaufighters of 404 Squadron were involved in an operation that became known as "Black Friday". On Feb. 9, 1945 a force of Allied Beaufighter aircraft suffered heavy casualties during an unsuccessful attack on German destroyer *Z33* and escorting vessels. The German ships were sheltering in a strong defensive position in Førde Fjord, Norway, forcing the Allied aircraft to attack through heavy anti-aircraft defences. The Beaufighters and their escort of North American P-51

Mustang fighters were also surprised by twelve German Focke-Wulf 190 fighters. In the resulting attack the Allies damaged at least two of the German ships for the loss of seven Beaufighters shot down by flak guns. Another two Beaufighters and one Mustang were shot down by the FW 190s. Four or five German fighters were shot down by the Allied aircraft. Six of the Beaufighters lost were from 404 Squadron.

406 (City of Saskatoon) Squadron:[2]

The Squadron was first formed at Acklington, north of Newcastle, in May 1941, as part of No. 13 Group of Fighter Command. The unit was equipped with IF heavy fighters, re-equipping with the improved Beaufighter IIF the next month. They operated out of several bases in the United Kingdom, changing to the Beaufighter VIF in mid-1942, and receiving the Mosquito XII night-fighter in April 1944. They upgraded to the Mosquito XXX in July, and operated this aircraft for the remainder of the war.

In June 1945, the squadron transferred to RAF Predannock in Cornwall, where it disbanded in August.

409 (Nighthawk) Squadron: No. 409 Nighthawk Squadron was formed at RAF Digby in June 1941 for night operations with Boulton-Paul Defiants, moving in July to Coleby Grange, where, in August, Beaufighter IIFs arrived, allowing detachments to be maintained elsewhere. Two victories were claimed during the early days of the Squadron's existence, but in June 1942 Beaufighter Mk VI's were received and a greater degree of success was achieved. In February 1943 a move was made to Acklington, with detachments maintained in at least four other locations. In December the Squadron returned to Coleby Grange with the various detachments continuing their separate existence. In March 1944 the Squadron moved to Hunsdon, converting to the Mosquito Mk XII and joining No. 85 Group of the 2nd TAF (Tactical Air Force). Intruder and offensive patrols commenced and much action was seen over the Normandy beachhead in June: 11 victories were claimed during this month. After some action against V-1 Flying Bombs, operations over Europe re-commenced, and late in August the unit moved to Carpiquet in France, the first night fighters to be based on the mainland. By mid-October the Squadron had settled in the Lille area, where it was to remain until April 1945. On April 19 a move was made to the Rhine in Germany, and from there the unit was able to claim six victories in a single night. Shortly after this the war ended with the squadron's total victories at 61½ claimed.

410 (Cougar) Squadron: The RCAF's third night-fighter squadron, No. 310, equipped with Defiants, formed at Ayr at the end of June 1941, moving to Drem in August with detachments located at several other airfields.

Beaufighter II's replaced the Defiants in April and in June the Squadron returned to Ayr,

[2] Squadron Crests are those currently used by the individual Squadrons. The wartime versions differed only in that they had Royal Canadian Air Force inscribed on them.

before moving to Scorton in September and to Acklington in October where it converted to de Havilland Mosquito Mk II's, with which the Squadron's first victory was claimed. In February 1943 the unit moved to Coleby Grange to undertake some 'Ranger' sorties. Mosquito Mk VI's supplemented the Mk II's from July, while in November the unit moved to Hunsdon where in December Mosquito Mk XII's replaced the earlier types.

In June 1944 a move was made to Zeals where the Squadron became part of the 2nd TAF (Tactical Air Force), moving to Colerne in July, and in August commenced conversion to the Mosquito Mk XXX. A return to Hunsdon preceded a move to France in September. The Squadron had the distinction of being the top-scoring night-fighter unit in 2nd TAF in the period between D-Day and VE-Day. A total of 75 3/4 victories had been claimed by the end of the war.

The squadron was disbanded in 1964 but reformed again in 1968.

Beaufighter Variants & Specifications – see appendices

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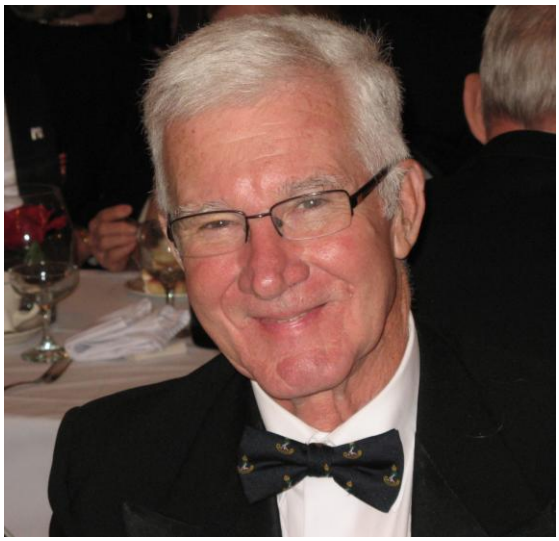

Mike Braham is a graduate of the Royal Military College (1965) and a former naval officer and senior official with DND. He has an abiding interest in military history.

Appendix 1

BEAUFIGHTER VARIANTS

Type 156 - Based on the Type 152 Beaufort torpedo bomber with new fuselage and Hercules powerplants.

R2052 - Prototype Model Designation of which four such examples produced.

Mk IF - Initial production models fitted with Hercules XI radials and nose radar; 4 x 20mm cannon armament (nose) plus 6 x 7.7 machine guns (wing); 553 produced.

Mk IIF - Fitted with Rolls-Royce Merlin XX inline engines generating 1,280hp each; 597 produced.

Mk VIF - Fitted with either Hercules VI or XVI powerplants; redesigned nose with improved radar system.

Mk IC - Anti-Ship Model Designation of which 397 were produced.

Mk III - Experimental Aircraft

Mk IV - Experimental Aircraft

Mk V - Experimental Aircraft

Mk VIC - Anti-Ship Model Torpedo Carrier; 693 were produced.

Mk VI (ITF) - "Interim Torpedo Fighter"; fitted with 8 x rockets in place of 6 x 7.7mm machine guns in wings; 60 such produced.

TF. Mk.X – Fitted with search radar; provision for torpedo, bombs and rockets; 2,205 produced.

TF.Mk XI – Similar to TF. MkX models; 163 produced.

TF. Mk 21 – Australian-produced variant of the TF. Mk. X; 364 produced.

Appendix 2

SPECIFICATIONS – BEAUFIGHTER Mk. VIF

Dimensions:
Length: 41.34ft (12.6m)
Width: 57.91ft (17.65m)
Height: 15.88ft (4.84m)

Performance:
Maximum Speed: 333mph (536kmh; 289kts)
Maximum Range: 1,479miles (2,381km)
Rate-of-Climb: 1,923ft/min (586m/min)
Service Ceiling: 26,519ft (8,083m; 5.0miles)

Armament Suite:
4 x 20mm cannons in under-nose position
6 x 7.62mm machine guns in wings

Structure:
Accommodation: 2
Hardpoints: 2
Empty Weight: 14,619lbs (6,631kg)
Maximum Take-Off Weight:21,627lbs (9,810kg)

Powerplant:
Engine(s): 2 x Bristol Hercules VI 14-cylinder air-cooled sleeve radials generating 1,635hp each.