

Fairey Firefly - Development and Combat

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The Fairey Firefly was developed as a two-man naval fighter-reconnaissance aircraft, and saw service as a long range escort and strike aircraft during the [Second World War](#) and as a strike aircraft during the Korean War.

Development

In March 1939 the Air Ministry issued two specifications for Naval fighter-reconnaissance aircraft. N.8/39 called for a two-seat fighter aircraft, with forward firing guns, while N.9/39 was for a similar aircraft but with a dorsal gun turret (as in the [Boulton Paul Defiant](#)).

Five companies submitted designs. Fairey's original designs were produced by Marcelle Lobelle, but he left the company in 1939 and was replaced by H.E. 'Charlie' Chaplin, who produced his own designs, submitting a single-seat fighter for N.8/39 and a two seat fighter-reconnaissance aircraft for N.9/39.

During the first half of 1940 it became clear that the turret fighter was not a good idea. It had originally been suggested because nobody was entirely sure if the new high-speed monoplane fighter aircraft would actually work, but the heavy losses suffered by the Boulton Paul Defiant and the success of the [Hurricane](#) and [Spitfire](#) quickly killed off the idea. The Air Ministry issued a revised specification, N.5/40F, based on the Fairey two-seater. A mock-up was ready by 6 June 1940, and on 12 June the Air Ministry ordered two prototypes, eleven development aircraft and 187 production machines. Blackburn was awarded the single-seat contract, for their [Firebrand](#).

The three prototypes were hand-built at Hayes, and assembled at the Great West Aerodrome. Z1826 made its maiden flight on 22 December 1941, Z1827 on 4 June 1942 and Z1828 on 26 August 1942. The maiden flight was made by Chris Staniland, Fairey's chief test pilot, a former fighter pilot and successful racing driver, both on bikes and in cars. His first report was generally positive, and the first prototype was delivered to the Aeroplane & Armament Experimental Establishment at Boscombe Down for trials on 28 April 1942.



[Fairey Firefly on HMS Ocean, 1946](#)

The Boscombe Down trials went well, although the test pilots did suggest some minor changes to the controls. Disaster struck on 26 June 1942, when Staniland was killed while flying the second prototype. The cause of the crash remained unclear, although it was probably caused by a failure of either the tail unit or the elevators. Despite this problem development continued. The third prototype appeared in August, and a fourth airframe was delivered for structural tests in September (this aircraft was probably diverted to the test programme).

Deck landings trials took place in the spring of 1943 (either with Z1828 in March or Z1829 in May), followed by Z1844 in June. These tests were satisfactory, although the pilots criticised the low canopy and windshields, which restricted visibility during landings. Both the canopy and windshield were raised on production aircraft.

A number of problems delayed the acceptance of the Firefly during 1943. In June 1943 the 13th aircraft was accepted as a template for early production, but tests revealed a number of problems, and early aircraft were only cleared for training. Finally, in October 1943 Firefly Z1888 was found to be acceptable, and the Firefly was cleared for active service in October 1943.

Tactical trials were carried out by the Naval Air Fighting Development Unit, at RAF Wittering, late in 1943. These revealed that the Firefly would not be a great daytime fighter, despite a tight turning circle and good handling, but that it would be a good long range escort fighter and night fighter.

The requirement to carry a second crewmember means that although the Firefly looked similar to high-performance single-engined fighters, it was actually much heavier. The [Spitfire XII](#), powered by a Griffon III engine producing the same power as the Griffon II of the Firefly F.1, had an all-up weight of 7,400lb, half that of the Firefly F.1. The Firefly was nearly six feet long and twelve feet wider than the Spitfire. As a result its top speed was only 316mph at 14,000ft, compared to the 382mph at 24,000ft of the Spitfire XII, and its service ceiling of 28,000ft was nearly 10,000ft lower than that of the Spitfire.

Description

The Firefly was a low-winged single-engined monoplane, with two separate cockpits. The pilot's cockpit was mounted above the wing leading edge, while the observer's cockpit was smoothly faired into the rear fuselage, starting above the wing trailing edge.

The Mk.I had elliptical wings, with an almost straight leading edge, curved trailing edge and curved tips. On the Mk.4 the wing tips were cut off, and the leading edge radiators disrupted the straight front to the wings.

During its lifespan the Firefly was produced with two very different arrangements of radiators. On the Mk.I and Mk.7 the radiator was mounted below the engine, behind an annular cowling, giving the Firefly a distinctive 'chin'. On the Mk.4 this was replaced by leading edge radiators on the inner wing sections, giving the aircraft a smooth streamlined nose.

Variants

[Firefly F.1](#)

The Firefly F.I was the main wartime version of the aircraft. It had the chin radiator, elliptical wings and was armed with four 20mm cannon. It did not carry radar.

[Firefly NF.1](#)

The Firefly NF.I was the second radar equipped version of the Firefly, but the first to enter service. The American AN/APS-4 radar was carried in a pod mounted below the engine cowling.

[Firefly FR.I](#)

The Firefly FR.I entered service in the summer of 1945, and was the first day version of the Firefly to carry radar.

[Firefly T.1](#)

The Firefly T.1 was a post-war unarmed training aircraft, with dual controls and a raised rear cockpit which gave the aircraft something of a 'humpbacked' appearance.

[Firefly TT.1](#)

The TT.1 was a target-tug produced after the war for Sweden

[Firefly T.2](#)

The T.2 was a tactical trainer, retaining two of the four 20mm cannon of the normal aircraft, and with the ability to carry bombs or other external supplies

[Firefly NF.2](#)

The NF.2 was the first attempt to produce a night-fighter version of the Firefly, and used AI Mk X radar. It was not a success and was replaced by the NF.1.

[Firefly F.3](#)

The F.3 was an unsuccessful attempt to give the Firefly a more powerful Griffon 61 engine while retaining the 'chin' radiator. It was replaced by the FR.4, which used a new cooling system.

[Firefly FR.4](#)

The FR.4 saw a significant redesign of the aircraft. A more powerful Griffon engine with a two-stage two-speed supercharger was installed, and the 'chin' radiator of the Mk.I was replaced with wing leading edge radiators. The wing tips were clipped to improve roll. The FR.4 had a short front-line career, and was soon replaced by the FR.5.

[Firefly TT.4](#)

The TT.4 was a target tug produced by fitting a winch in a pod below the fuselage of a Firefly Mk.4. TT.5s and TT.6s were produced in the same way from later versions of the aircraft.

[Firefly FR.5](#)

The Mk.5 was a multi-purpose version of the Firefly that could easily be modified between its three roles. The FR.5 was the basic fighter-reconnaissance version of the aircraft.

[Firefly NF.5](#)

The NF.5 was given some extra radar equipment and flame damping exhausts.

[Firefly AS.5](#)

The AS.5 was the first anti-submarine version of the Firefly, and could carry sonobuoys or mines below its wings.

[Firefly AS.6](#)

The AS.6 was a dedicated anti-submarine warfare aircraft. Its 20mm cannons were removed to make room for extra anti-submarine weapons and equipment that could be carried on hard-points under the wings.

[Firefly AS.7](#)

The AS.7 saw a major redesign of the Firefly, and could carry two crewmen in the revised rear cockpit. It never entered front-line service, and instead was completed as a training aircraft.

Firefly T.7

The T.7 was a three man trainer based on the unsuccessful AS.7

[Firefly U.8](#)

The Firefly U.8 was an unmanned target drone based on the T.7

[Firefly U.9](#)

The Firefly U.9 was the designation given to forty unmanned drones produced by converting surplus Firefly Mk.5s.

Combat Record

Norway

The Firefly made its combat debut in the North Sea and along the Norwegian coast.

The first front line squadron to receive the Firefly was No.1770 Squadron at RNAS Yeovilton, which received its first aircraft on 27 September 1943; its second on 5 October and built up to a strength of sixteen aircraft and fourteen crews over the next two months. The squadron deployed to HMS *Indefatigable* for its combat debut, taking part in the 17 July 1944 attack on the *Tirpitz*. The main attack was to be made by a force of Fairey Barracudas, supported by Fireflies, Hellcats, Corsairs and Seafires. The Fireflies opened the entire attack, diving in to attack anti-aircraft guns around the *Tirpitz*, but the overall attack was foiled by German smoke.

No.1770 Squadron began a second tour off Norway on 7 August, using its Fireflies to escort minelayers and attack shore targets. The squadron returned to the *Tirpitz* on 22 August, taking part in two attacks, again on 24 August and a fourth time of 29 August. The *Tirpitz* survived these attacks, but was sunk by RAF 12,000lb Tallboy bombs on 12 November 1944.

No.1770 Squadron's last mission off Norway came on 19 September 1944. The *Indefatigable* then departed for the Pacific, and her role off Norway was taken on by No.1771 Squadron and HMS *Implacable*. No.1771 Squadron's first mission came on 18 October and was a reconnaissance flight that discovered the *Tirpitz* off Haakoy Island. This first tour ended on 7 November and was followed by a second tour, which started on 22 November, and by a third (5-9 December). The squadron then spent three months on shore before going to join the Pacific Fleet.

The Pacific



[Fairey Firefly on HMS Indefatigable, January 1945](#)

No.1770 Squadron was the first Firefly squadron to reach the Far East, arriving in Ceylon in December, and rejoined the *Indefatigable* on 24 December. Once there she joined the fleet carriers *Victorious* and *Indomitable* for the attacks on oil refineries on Sumatra on 4 January 1945, where the Fireflies were used to attack anti-aircraft batteries, although they also claimed two Ki-42 Hayabusas. The *Illustrious* then joined the fleet, and all four carriers took part in a series of attacks on south-east Sumatra, beginning with an attack on Palembang on 24 January 1945. This saw the fighter escort of [Corsairs](#) and [Hellcats](#) become separated from the strike force, forcing the Fireflies to act as fighters in a dogfight with [Ki-43 Hayabusas \(Oscar\)](#) and [Ki-44 Shokis \(Tojo\)](#). More successes as a fighter came during the 29 January attack on Soengi Gerong, when one Ki-44 and one Ki-43 were claimed.

In mid-March 1945 the British Pacific Fleet joined the American 5th Fleet as Task Force 57. The British carriers were used to attack the Sakashima Gunto islands to prevent the Japanese from using their airfields to ferry aircraft to [Okinawa](#). The Fireflies were used to suppress anti-aircraft batteries while other aircraft attacked the airfields. These attacks began on 26 March and ran through to 7 April.

On 18 March No.1772 Squadron reached Australia with its Fireflies. These would be used to reinforce the existing squadron, with one flight joining No.1770 on the *Indefatigable*, arriving in time to take part in an attack on Kii-run harbour on Formosa on 12 April. The fleet then returned to the Sakashima Gunto islands, carrying out raids between 16 April and 25 May, before returning to Australia for replenishment.

This also saw No.1770 Squadron's war come to an end. It was replaced by No.1771 Squadron and a section from No.1772 Squadron, both on HMS *Implacable*. Their first mission was a rocket attack on Truk in the Carolines on 14 June. The British Pacific Fleet then moved to the American base at Manus, where it joined the US 3rd Fleet as Task Force 37, to take part in the final attacks on the Japanese homeland. These began on 17 July with a series of rocket attacks on Japanese airfields, and continued on to 15 August, when six [Avengers](#), eight Seafires and four Fireflies attacked Kizarazu airfield in the last British combat sortie of the Second World War.

After the end of the fighting the Fireflies were used to locate POW camps and to drop supplies, but by mid-September they were all back in Australia. The three Firefly squadrons were soon disbanded - No.1770 on 30 September, No. 1771 on 16 October and No.1772 on 10 March 1946 on its return to Britain.

Palestine

The Firefly FR.I saw service towards the end of the British involvement in Palestine, where the British mandate was due to expire on 14 May 1948. HMS *Ocean* with No.816 Squadron, arrived off Palestine on 7 May, and took up a post off Haifa on 10 May, where it was kept in readiness to cover the army withdrawal.

It was joined by HMS *Triumph* with No.827 Squadron on 29 June 1948. No.827 Squadron used its Fireflies to fly armed reconnaissance patrols on 29-30 June, ending when the last troopships left harbour.

Malaya

A number of Firefly squadrons contributed to the British effort during the [Malaya emergency](#), most of them while on their way out to Korea.

The first squadron to become involved in Malaya was No.827 Squadron, which was operating Firefly FR.Is from HMS *Triumph*. The squadron was put ashore on 3 October 1949, and launched raids on Communist positions on

21 and 23 October. The squadron then re-embarked on the carrier and moved to Singapore, where it was landed again, to begin a series of attacks that lasted from early December until the end of January 1950.

No.825 Squadron, operating Firefly FR.5s from HMS *Ocean*, attacked targets in Malaya on 25 April 1952, on its way out to Korea. The same squadron returned in 1954, launching sixteen attacks on targets in Central Johore on 27 May,

No.821 Squadron also contributed in 1952, flying eighteen sorties on 27 October, again while on its way to Korea.

Korea

At the outbreak of the Korean War HMS *Triumph* had just completed a trip to Japan, and was about to return to Britain. Instead she sailed to join the Americans at Okinawa, becoming part of Carrier Task Force 77, alongside the USS *Valley Forge*. The task force flew its first sortie over Korea on 3 July when nine Firefly FR.1s and twelve Seafires attacked Haeju airfield. Further sorties followed on 4 July, before the *Triumph* returned to Okinawa.

The *Triumph* took part in a series of combat patrols over the next few months. The second and third patrols (18-21 July and 24-30 July) saw the Fireflies used for anti-submarine patrols. The fourth, on 14-15 August, saw them used for armed reconnaissance along the west coast of Korea as part of a naval blockade. In September, after a series of similar patrols, the *Triumph* became part of the massive naval armada that covered the American landings at Inchon, taking part from 12-21 September. By this time very few Seafires were still operational, and the Firefly FR.1s were also showing their age. The *Triumph* returned to Britain, arriving in November 1950, and No.827 Squadron disbanded soon afterwards.

The *Triumph* was replaced by HMS *Theseus*, carrying Sea Furies and the Firefly FR.5s of No.810 Squadron. Her first combat patrol began on 9 October 1950, and she remained in Korea until April 1951. This was the last period of movement during the war, and saw the UN forces advance towards the Chinese border, before being forced to retreat back beyond Seoul. By the time the *Theseus* left the UN had recaptured Seoul and the front line was beginning to assume a more static nature. During this period the Fireflies were often used for ground attack missions, and were frequently armed with rockets as well as their bombs.

The *Theseus* left on 25 April and two days later HMS *Glory* arrived, with Sea Furies and the Firefly FR.5s on No.812 Squadron. Combat operations began in March, and the *Glory* remained until May 1952, performing two tours of duty. Between these two tours the Commonwealth presence was kept up by HMAS *Sydney*, which took up station in September 1951.

The *Glory* was replaced by HMS *Ocean* in May 1952, with the Fireflies of No.825 Squadron. Her tour lasted until October, when she was replaced by HMS *Glory*, with the Fireflies of No.821 Squadron. Her tour lasted until May 1953, by which time an end to the war was in sight. HMS *Ocean* returned for the last phase of the war, this time with No.810 Squadron. Operations began on 23 May, and ended after four war patrols on 23 July. On 27 July 1953 the armistice that ended the fighting in the Korean War was signed, ending a conflict that had seen the Firefly involved from its beginning to its end.

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