

Short Bros. S.45 Seaford Flying Boat

A brief history compiled by David H Clarke



**Production Short S.45 Seaford in flight (thought to be NJ207).
Photograph courtesy of 1000aircraftphotos.com**

The Short S.45 Seaford Mk. I was a development of the World War II Sunderland flying boat.

Only eight production aircraft were built and after trials by the RAF it did not enter military service.

BOAC was lent one for civilian trials and decided that it could use a civilian version for its long-haul flights.

BOAC ordered a number of civilian Seafords (now called the Short S.45 Solent) and a number of the original Seafords were converted into civilian flying boats. As well as BOAC a number of other operators used the Solent, in particular Tasman Empire Airways Limited (T.E.A.L), which became Air New Zealand.

One Solent converted from a Seaford and one purpose built Solent have been preserved.

Short Bros. S.45 Seaford Flying Boat

A brief history compiled by David H Clarke, January 2012

Abstract

The Short Brothers' Seaford flying boat was a development of their more famous Short Sunderland. Two prototypes were built, the first flying in 1944. Thirty production versions were ordered, but in the end only eight were built. Originally it was to be called the Short Sunderland Mk.IV, but in the end it was decided to give it a new name, the **Short S.45 Seaford Mk. I**. The RAF carried out military trials of these aircraft in April and May 1946, but the RAF decided not to adopt the Seaford.

One of the production Seafords was loaned to BOAC (British Overseas Airways Corporation) for civilian trials (December 1945 to February 1946). As a result BOAC ordered twelve civilian versions of the Seaford (now called the Short Solent Mk. II) from Shorts. The loan Seaford was returned to the RAF. It was eventually sold (as a Solent Mk. III) to Aquila Airways.

It was intended that six of the seven remaining production Seafords were to go to BOAC following their conversion to Solent Mk. IIIs. In the event only four were leased to BOAC. Of the remaining two, one was sold to South Pacific Airlines, USA and one to Aquila Airways (a UK Flying Boat operator).

The remaining production Seaford was sold in 1949 to Air Navigation and Trading Co. Ltd, Blackpool, but it was never collected from Felixstowe and it was scrapped on site.

Tasman Empire Airways Limited (T.E.A.L) commissioned four Solents Mk. IVs from Shorts and these were delivered in 1949.

One Short Solent III (converted from a Seaford) survives. This is in the Oakland Aviation Museum, Oakland California, USA.

One Short Solent IV survives. This is ZK-AMO "Aranui", and is in the Museum of Transport and Technology (MOTAT), Auckland, New Zealand.

Background

Short S.25 Sunderland

The Short S.45 Seaford flying boat was a development of Short Brothers more famous Sunderland flying boat.

The S.25 Sunderland was developed by Short Brothers (the first commercial aircraft company in the world) in response to Air Ministry specification R.2/33 for a general reconnaissance flying boat. It was based on Short Bros. famous S.23 "Empire" or "C-class" civilian flying boat, the flagship of Imperial Airways. During the development of the Sunderland a change was made to the armament which resulted in a heavier tail turret being installed. This moved the centre of gravity of the aircraft towards the tail. A quick solution to deal with this was to fit a spacer to the wing front spar. This resulted in the wings being swept back by around 4°. No other changes were made to the wing, resulting to the engines and wing tip floats being splayed out slightly (rather than being parallel with the centre line). The S.25 first flew on 16 October 1937. The Mk I was powered by four Bristol Pegasus XXII air-cooled radial engines of 1,010hp each. With the development of the Mk. III, the power plant had been upgraded to four Bristol Pegasus XVIII nine-cylinder radial engines, fitted with two-speed superchargers, producing 1,065 hp each.

At the end of 1942 the Air Ministry issued specification, R.8/42 (OR 118) which called for a generally improved Sunderland (the Mk. IV) with, amongst other things, a stronger wing, a longer and deeper fuselage, more powerful engines and better defensive armament. It was intended for service in the Pacific. The Sunderland Mk. IV had four 1,700 hp Bristol Hercules XIX fourteen-cylinder engines with four-bladed propellers. The opportunity to re-align the engines and floats to make them parallel with the centre line was not taken at this time.

Military Trials

Two prototypes (MK269 and MK271) were commissioned and the first prototype, MK269, flew on 30 August 1944. Early flight trials showed the need for changes to the tailplane and fin. At around this time it was decided that the aircraft was so different from the Sunderland Mk. III that it should be given its own name: the Short S.45 Seaford Mk.I.

Initially thirty production Seafords were ordered, but in the end only eight were built. These were given the RAF serial numbers NJ200 to NJ207. They were built by Short Brothers at their Rochester factory under, it appears, Contract No. 2688 (information taken from Air Ministry Form 78 Aircraft Movement Card for the first production Seaford NJ200). They were all built without tail turrets. NJ201 was finished as an unarmed trainer/transport version and given to Transport Command for trials. Aircraft NJ202 to NJ207 were allocated to RAF 201 Squadron for operational trials during April and May 1946. In the end (partly because of the end of the war in the Pacific) the RAF decided not to adopt the Short Seaford. Seafords NJ202 to NJ207 were transferred to No. 57 MU ("Maintenance Unit"), Wig Bay, Stranraer, Dumfries and Galloway, Scotland for storage. The first production Seaford, NJ200, was also transferred to No. 57 MU on 13 April 1948.

Civilian Trials

One production Seaford (NJ201) was loaned to BOAC (British Overseas Airways Corporation) for civilian trials (December 1945 to February 1946). As a result BOAC ordered twelve civilian versions of the Seaford (now called the Short Solent Mk. II) from Short Brothers. These were built at Short's Rochester factory using the jigs and production line originally set up for building the Short Seafords. It seems that the conversion design was based on the conversion of the Sunderland to the Short Sandringham that had been delivered to BOAC around a year earlier than the Solents. The loan Seaford NJ201 was returned to the RAF. It was eventually sold (as a Solent Mk. III) to Aquila Airways.

Six of the seven remaining production Seafords were transferred from No. 57 MU to Short & Harland Ltd., Belfast, to be converted to Solent Mk. IIIs (NJ202 to NJ207 inclusive). In the end the conversion of NJ206 was not completed. NJ206 was eventually sold to South Pacific Airlines, USA.

The conversion from Seaford to Solent allowed for seating of 39 passengers. Part of this conversion also involved the refitting of the wing tip floats. These were moved slightly forward and outboard to a point

about midway between the centre line of the outboard engine and the wing tip. They were fitted parallel to the aircraft centre line and were mounted on two “V” shaped struts.

Solents NJ202 to NJ205 inclusive were leased to BOAC. Solent NJ206 was sold to South Pacific Airlines, USA. Solent NJ207 was sold to Aquila Airways.

One aircraft, NJ200, was sold out of No. 57 MU (as a Seaford) to Air Navigation and Trading Co. Ltd. (“ANT”), Blackpool, and delivered to MAEE, Felixstowe. ANT never collected this aircraft and it was broken up at Felixstowe.

Tasman Empire Airways Limited (T.E.A.L) commissioned four new Solents (Mk. IVs) from Shorts and these were delivered in 1949. It was not until the construction of the Solent Mk. IVs that the engines were re-aligned to be parallel to the centre line.

Specification

General characteristics

- Crew: 8 — 11 (two pilots, radio operator, navigator, engineer, bomb-aimer, three to five gunners)
- Length: 88 ft 6¾ in (27.00 m)
- Wingspan: 112 ft 9½ in (34.39 m)
- Height: 37 ft 3 in (11.36 m)
- Wing area: 1,687 sq ft (156.8 m²)
- Empty weight: 45,000 lb (20,455 kg)
- Loaded weight: 75,000 lb (34,090 kg)
- Powerplant: 4 × Bristol Hercules XIX radial engines, 1,720 hp (1,283 kW) each

Performance

- Maximum speed: 242 mph (210 knots, 389 km/h) at 500 ft (150 m)
- Cruise speed: 155 mph (138 knots, 250 km/h)
- Range: 3,100 miles (4,991 km)
- Service ceiling: 14,000 ft (4,268 m)
- Rate of climb: 880 ft/min (4.5 m/s)
- Climb to 10,000 ft (3,050 m): 18 min

Armament

- Guns: 6 × .50 in Browning machine guns (two each in nose and tail turrets – although the tail turret was never fitted – and two beam guns), 2 × 20 mm Hispano cannon in dorsal turret and 2 × fixed .303 in Browning machine gun
- Bombs: 4,960 lb (2,250 kg) of bombs and depth charges.

Survivors

Short Solent Mk. III (ex Seaford Mk. I)

One Short Seaford survives as a Short Solent Mk. III. It was the fourth production Seaford, NJ203. It was converted to a Solent Mk. III and used by BOAC as G-AKNP “City of Cardiff”.

The aircraft was sold in 1951 to Trans Oceanic Airways Pty Ltd, Australia and re-registered VH-TOB “Star of Papua”.

The aircraft was sold to Dollar Associates, Inc., Reno, USA (for operation by their South Pacific Airlines division) in 1953 and registered in the USA as N9946F “Isle of Tahiti” in 1954. It did not, however, go into service.

It then had a number of owners until it was sold, at the end of 1976, to brothers Rick and Randy Grant for restoration. The aircraft was renamed “Halcyon” in 1978. It is now on display Oakland Aviation Museum, Oakland California. In 1981 it appeared in the Indiana Jones film “Raiders of the Lost Ark”.

Short Solent Mk. IV

Tasman Empire Airways Ltd (TEAL) Solent IV, ZK-AMO "Aranui" is preserved at the Museum of Transport and Technology (MOTAT), Auckland, New Zealand.

History of Individual Aircraft

Introduction

Given below is as accurate a summary of the history of each aircraft as I have been able to discover. Information on some aircraft is more detailed than for others. Only the aircraft that started life as Short Seafords are included.

Prototype MZ269

Prototype MZ269. Allocated to the Marine Aircraft Experimental Establishment (MAEE), Felixstowe. It remained there until written off following an engine fire in July 1947.

Prototype MZ271

Prototype MZ271. Allocated to the Marine Aircraft Experimental Establishment (MAEE) Felixstowe. It remained there until scrapped in 1952.

Production Aircraft NJ200

Airframe Number S. 1292. Possibly allocated to the Marine Aircraft Experimental Establishment (MAEE) Felixstowe. Information on the aircraft being at Felixstowe comes from two sources. "The Short S.45 Seaford", by Bill Mortimer states: "...Of the original Seafords the two prototypes MZ269 and MZ271 and the first two production models NJ200 and NJ201 were retained at MAEE Felixstowe..." and Short Bros. Commemoration Society Archives: "S1292 NJ200 S45 Seaford 1. Four Engine Monoplane Flying Boat. 4x1800hp Bristol Hercules 130. RAF MAEE. Short's 9-7-46 to 13-4-48. 57 MU Wig Bay. Registered 17-2-49 as G-ALIJ to R L Whyham but never collected". The allocation of this aircraft to MAEE is, however, not mentioned in the aircraft's Air Ministry Form 78 Aircraft Movement Card. A copy of the A.M. Form 78 was supplied by the RAF Museum. In the covering letter the museum states: "...the Form 78 does not explicitly mention the MAEE where you believe it spent some time".

The aircraft's Air Ministry Form 78 does show that it was allocated to No. 57 MU, Wig Bay on 13 April 1948 and that it was then sold to the "Air. Nav. Coy." on 23 or 24 February 1949. This company is the Air Navigation & Trading Co. Ltd. ("ANT"), located at Blackpool Airport and still in business providing a range of aviation related services.

The CAA's registration record shows that it was registered (as a Short Seaford) to Mr. Russell Littledale Whyham with registration number G-ALIJ on 17 February 1949 and records a change of ownership in October 1949. Information obtained from ANT confirms that ANT was set up in 1945 by Russell Littledale Whyham. The Aircraft Registrar at the Civil Aviation Authority states that "... our files ... show that although the registration mark G-ALIJ was allocated to the Seaford, the registration mark was never actually taken up by that aircraft. Our records are however quite incomplete and although I have had a look I can't seem to find any more info on the Seaford other than what is on the website". NJ200 certainly ended up at MAEE Felixstowe after its transfer from No. 57 MU. The aircraft was, however, not collected from there by ANT and was eventually scrapped on site.

Production Aircraft NJ201

Airframe Number S. 1293. Loaned to BOAC for civilian trials (31 December 1945 to 19 February 1946) and given the temporary civilian registration G-AGWU.

Returned to the RAF on 1 July 1947 and allocated to RAF Transport Command (RAF serial no. OZZA) for trials as an unarmed transport/trainer. Transport Command decided not to adopt the Seaford. It was modified by Shorts to streamline the nose and tail and was allocated to MAEE Felixstowe. In 1948 the position and orientation of the floats was altered.

This aircraft had been partly converted to Solent standard and in 1953 it was sold to Aquila Airways. The conversion to a Solent was completed at the Hamble. The aircraft was registered as G-ANAJ and named "City of Funchal". It was wrecked in a storm in at Santa Margherita, Italy on 26 September 1956. The accident report says that the aircraft was "standing" (i.e. not taking off, landing, taxiing or in flight) and states: *"Wrecked by gale and driven ashore"*.

Production Aircraft NJ202

Airframe Number S.1294. Allocated to 201 Squadron for military trials during April and May 1946. It was then transferred to No. 57 MU, Wig Bay. It was converted to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation.

The aircraft was given civilian registration G-AKNO on 2 December 1947. It was originally allocated the name "Seaforth". It was leased to BOAC on 1 April 1949 and renamed: "City of London". BOAC records show the aircraft as based at Hythe (BOAC list dated 31 July 1949) and that it was returned to the Ministry of Civil Aviation 15 November 1950.

The aircraft was sold to Trans Oceanic Airways on 20 December 1950 and re-registered as VH-TOA and named "Star of Australia". On 28 January 1951, during the delivery flight to Australia, a wing float separated/broke during taxiing prior to takeoff at Marsaxlokk Harbour, Malta, leading to the aircraft capsizing and sinking. There was one fatality.

Production Aircraft NJ203

Airframe Number S.1295. Allocated to 201 Squadron for military trials during April and May 1946. It was then transferred to No. 57 MU, Wig Bay. It was converted to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation.

The aircraft was given civilian registration G-AKNP on 2 December 1947. It was originally allocated the name "Sunderland". It was leased to BOAC on 19 March 1949 and renamed: "City of Cardiff". BOAC records show the aircraft as based at Hythe (BOAC list dated 31 July 1949) and that it was returned to the Ministry of Civil Aviation 15 November 1950.

The aircraft was sold on 5 February 1951 to Trans Oceanic Airways Pty Ltd, Australia. It was re-registered in Australia on 1 May 1951 as VH-TOB and named "Star of Papua".

Trans Oceanic Airways ceased all operations due to bankruptcy in April 1953 and the aircraft was sold by Trans Oceanic Airways' liquidators to Dollar Associates, Inc., Reno, USA on 1 May 1953.

The aircraft was entered into the U.S. Aircraft Register as N9946F on 1 May 1954.

The aircraft was to be operated by South Pacific Airlines, Inc (a division of the Dollar Steamship Lines) on Honolulu-Christmas Island-Tahiti services and was named "Isle of Tahiti". The aircraft was out of service for refurbishment in Oakland, California between 1955 and 1958.

A trial flight of the route was completed in December 1958. Before scheduled operation could start, however, the British Government withdrew permission for the use of Christmas Island as a transit stop. This was because Christmas Island was a centre for UK H Bomb tests. Because of this (and the introduction of the Boeing 707 aircraft jet transports for long-haul flights) the company decided not to operate this route. On 25 July 1958 the aircraft had its last flight over San Francisco Bay and was left at San Francisco Airport.

The aircraft, with two other Solents (one of which was NJ206 and one which was Solent Mk II, originally BOAC Solent G-AHIO, then Trans Oceanic Airways VH-TOD, finally US registration N9945F) was sold to Hughes Tool Company (owned by US millionaire Howard Hughes) and placed under armed guard at San Francisco Harbour in 1959. In 1967 the aircraft were evicted from storage area and were transferred by barge to Richmond, California for further storage.

In February 1973 the three Solents were sold to H & M Airline Services for \$1,500.

In March 1973 N9946F was sold to R & H Gottelli.

The aircraft was advertised in "Trade a Plane" magazine, and in November or December 1976 it was sold for restoration to Rick Grant (of Grant Engineering, Richmond, CA, USA) and his brother Randy. They had hoped to get the Solent into airworthy condition to fly it to the South Pacific. They were, however, advised that airframe corrosion and engine condition meant that this was impracticable.

Sometime between the sale of the three Solents to H & M Airline Services and the sale of NJ203 to the Grant brothers, the other two Solents were scrapped (probably in 1974).

The aircraft was renamed "Halcyon" in 1978. In August 1987 she was barged back to Oakland and towed to North Field where she was put on display and opened to the public. In 1990 she was towed to her present location at the Oakland Aviation Museum, Oakland, California, USA.

In the 1981 Indiana Jones film "Raiders of the Lost Ark" the Solent stands in for a Pan Am Martin China Clipper flying boat in the non-flying scenes.

Production Aircraft NJ204

Airframe Number S.1296. Allocated to 201 Squadron for military trials during April and May 1946. It was then transferred to No. 57 MU, Wig Bay. It was converted to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation.

The aircraft was given civilian registration G-AKNR on 2 December 1947. It was originally allocated the name "Selkirk". It was leased to BOAC on 19 March 1949 and renamed: "City of Belfast". BOAC records show the aircraft as based at Hythe (BOAC list dated 31 July 1949) and that it was returned to the Ministry of Civil Aviation 15 November 1950.

Sold to Tasman Empire Airways Limited (T.E.A.L) on 28 May 1951, G-AKNR arrived at T.E.A.L's Mechanics Bay base on 15 September 1951 and was re-registered in New Zealand as ZK-AMQ in November 1951. It was given the name: "Aparima".

ZK-AMQ carried out the first commercial service on the Coral Route (Auckland, Fiji, Samoa, Tahiti and the Cook Islands) departing Auckland on the 27 December. The return service commenced on 31 December and returned to Auckland on 4 January, 1952. A Solent Mk. IV flew this route for the last time in September 1960, which marked the end of the world's last scheduled international flying boat service.

ZK-AMQ was withdrawn from scheduled service on 19 June 1954 and kept in reserve as a backup for ZK-AMO which was operating the Coral Route. After providing a replacement service when ZK-AMO was out of action early in 1955 it was placed back into storage. ZK-AMQ operated the final T.E.A.L Auckland-Chatham Islands-Auckland flight on 19 to 20 October 1956. This was ZK-AMQ's final flight, and it was again placed in reserve storage. By mid-1957 it was stripped of useful equipment, and was scrapped in either September or October 1957 at Mechanics Bay, Auckland, New Zealand.

Production Aircraft NJ205

Airframe Number S.1297. Allocated to 201 Squadron for military trials during April and May 1946. Then transferred to No. 57 MU, Wig Bay. It was converted to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation.

The aircraft was given civilian registration G-AKNS on 2 December 1947. It was originally allocated the name "Sheerness". It was leased to BOAC on 24 June 1949 and renamed: "City of Liverpool". BOAC records show the aircraft as based at Hythe (BOAC list dated 31 July 1949) and that it was returned to the Ministry of Civil Aviation 15 November 1950.

Transferred back to MEAA Felixstowe on 7 November 1950 and given serial no. WM759. At MAEE this aircraft was used in tests to examine its behaviour in various sea states. These tests were partly to help decisions to be made over the use of Solents, or other flying boats, in an anti-submarine role. The work also helped in the development of a heavier Solent, the Mark IV (ordered by T.E.A.L). The aircraft was scrapped in Poole around 1958.

Production Aircraft NJ206

Airframe Number S. 1298. Allocated to 201 Squadron for military trials during April and May 1946. It was then transferred to No. 57 MU, Wig Bay. It was sent for conversion to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation. According to *Aeroplane Monthly*, February 1979 the conversion was not completed.

The aircraft was given civilian registration G-AKNT on 2 December 1947. It was originally allocated the name "Singapore". Intended for transfer to BOAC but not delivered. Ownership remained with the Ministry of Civil Aviation.

It was sold to South Pacific Airlines, USA on 15 November 1955 as N9947F. It was scrapped in Oakland, California in 1974.

Production Aircraft NJ207

Airframe Number S. 1299. Allocated to 201 Squadron for military trials during April and May 1946. It was then transferred to No. 57 MU, Wig Bay. It was converted to a civilian Solent Mk. III in 1947 at Short & Harland Ltd., Belfast for the Ministry of Civil Aviation.

The aircraft was given civilian registration G-AKNU on 2 December 1947. It was originally allocated the name "Sydney". Intended for lease to BOAC but not delivered. Ownership remained with the Ministry of Civil Aviation.

It was sold to Aquila Airways on 23 October 1951 and was named "City of Sydney". On 15 November 1957 the aircraft departed Southampton for a flight to Lisbon and Madeira. Eight minutes after takeoff the crew radioed that the number 4 propeller had been feathered. While trying to return to Southampton, the Solent crashed into the face of a quarry between Chessell and Brook on the Isle of Wight. The aircraft was destroyed and 45 of the 58 passengers and crew lost their lives.

Postscript to the Solent

In 1946 Shorts decided that there was a market for a range of purpose-built flying boats for commercial operation (rather than conversions from military designs). Shorts looked at three sizes of flying boats and finally decided to design and manufacture the smallest size, the S.A.6. This was a twin-engined, amphibious aircraft (able to land and take-off from water and land). It was named the Sealand. Its fuselage was, in form, a half-sized Solent. It had a length of 42 ft 2 in (12.8 m) compared with the Solent with a length of 87 ft 8 in (26.7 m).

Organizations Important to the Short Seaford

A Brief History of Short Brothers

Brothers Eustace Short (1875–1932) and Oswald Short (1883–1969) started manufacturing balloons in 1902 and won an order for three balloons for the British Indian Army in 1905. In November 1908 they joined with their brother Horace (1872–1917) and set up a partnership under the name Short Brothers. Short Brothers became the first aircraft manufacturing company in the world when, 1908, the Wright brothers granted Shorts the British rights to build Wright Flyers. An initial order for six aircraft was taken up by members of the Aero Club (later the Royal Aero Club). The Short Brothers' initial factory was in Battersea, London. In 1909 they then moved to land recently purchased for the use of the Aero Club near Leysdown-on-Sea on the Isle of Sheppey. In 1910 Shorts and the Royal Aero Club, moved a short distance to larger premises at Eastchurch.

In 1913 Shorts built their factory at Rochester on the Medway. In this factory Short Brothers built a number of seaplanes and flying boats, culminating in the Short "Empire" Class flying boats, the Short Sunderland (its most successful aircraft) and the Short Seaford.

In 1916, Shorts were awarded a contract to build airships for the navy. As part of the contract a new site was set up at Cardington, Bedfordshire. In 1919 the company was renamed Short Brothers (Rochester and Bedford) Ltd. The company was nationalised in the same year and the company became the Royal Airship Works.

In 1922 the company reverted to private ownership and became again Short Brothers.

In 1936, the Air Ministry formed a new aircraft factory in Belfast, creating a new company owned 50% each by Harland and Wolff and Shorts. It was called Short & Harland Ltd.

During the Battle of Britain, the Rochester factory was heavily bombed. The Short & Harland factory in Belfast became increasingly important, as it was thought to be outside of the range of the German bombers. It was however, heavily bombed in 1941. The next expansion of capacity was planned for Rochester. In view of the risk of bombing it was however carried out at a new site at White Cross Bay on Lake Windermere.

In order to secure an expansion of the Sunderland and the Short Stirling bomber, the Ministry of Aircraft Production nationalised Short Brothers (under Defence Regulation 78) on 23 March 1943. Oswald Short, who had resigned as Chairman in January of that year, remained as Honorary Life President.

Shorts in Belfast is now owned by Bombardier and produces components for the aviation industry.

A Brief History of the Marine Aircraft Experimental Establishment

The Marine Aircraft Experimental Establishment (MAEE) was a British military research and test organisation. It was originally set up in October 1918 at RAF Isle of Grain. It was set up to design, test and evaluate seaplanes, flying boats and other aircraft with a naval connection. It existed under a number of names until 1 March 1924 when it was finally named the Marine Aircraft Experimental Establishment.

On 16 June 1924 it moved to Felixstowe and in 1936 the Establishment came under the control of RAF Coastal Command. Some sources date MAEE's involvement with Felixstowe from March 1924. In 1937 the Fleet Air Arm was returned to the Royal Navy control and MAEE's involvement with carrier-borne aircraft ceased. During this pre-war period MAEE was involved with the UK's 1929 and 1931 Schneider Trophy winners.

During World War 2 the MAEE was based in Helensburgh, Scotland and it came under the control of the Royal Aircraft Establishment.

At the end of the war the MAEE returned to Felixstowe. The link with the Royal Air Force and Royal Aircraft Establishment ended in 1953 but the MAEE continued as a civilian manned unit and did not shut until 1958.

Brief History of 201 Squadron, RAF

201 Squadron is one of the oldest RAF squadrons. The official RAF website states that it was originally set up as No 1 Squadron, RNAS (Royal Naval Air Service) at Fort Grange on 16 October 1914. A private website devoted to the RAF (*Air of Authority - A History of RAF Organisation* www.rafweb.org) states that: "[201 squadron] Formed at Antwerp on 1 September 1914, it was disbanded during the British retreat from Belgium on 14 October. Three days later it was reformed at Fort Grange, Gosport on 17 October 1914 as No 1 Squadron RNAS..."

The unit was renamed as No 1 (Naval) Squadron, and was almost immediately sent back to the Continent, where it had a distinguished war record. On 1 April 1918 the RNAS and the Royal Flying Corps (RFC) were merged into the new Royal Air Force and the unit became No 201 Squadron, RAF. On 31 December 1919, 201 Squadron (like many other RAF units) was disbanded.

201 Squadron was reformed at RAF Calshot on 1 January 1929 as a flying boat squadron. It included a Supermarine Southampton flying boat unit. The squadron operated a number of flying boat types. By April 1940 the squadron's operation was based on the Short S.25 Sunderland. 201 Squadron carried out anti U-Boat patrols and was involved in Channel sorties in the lead up to D-Day. 201 Squadron's experience with Sunderlands explains why it was given the task of carrying out military trials of the Short Seaford. 201 Squadron continued to operate Sunderlands, taking part in the Berlin Airlift (June 1948 to May 1949). The squadron was disbanded at RAF Pembroke Dock on 28 February 1957.

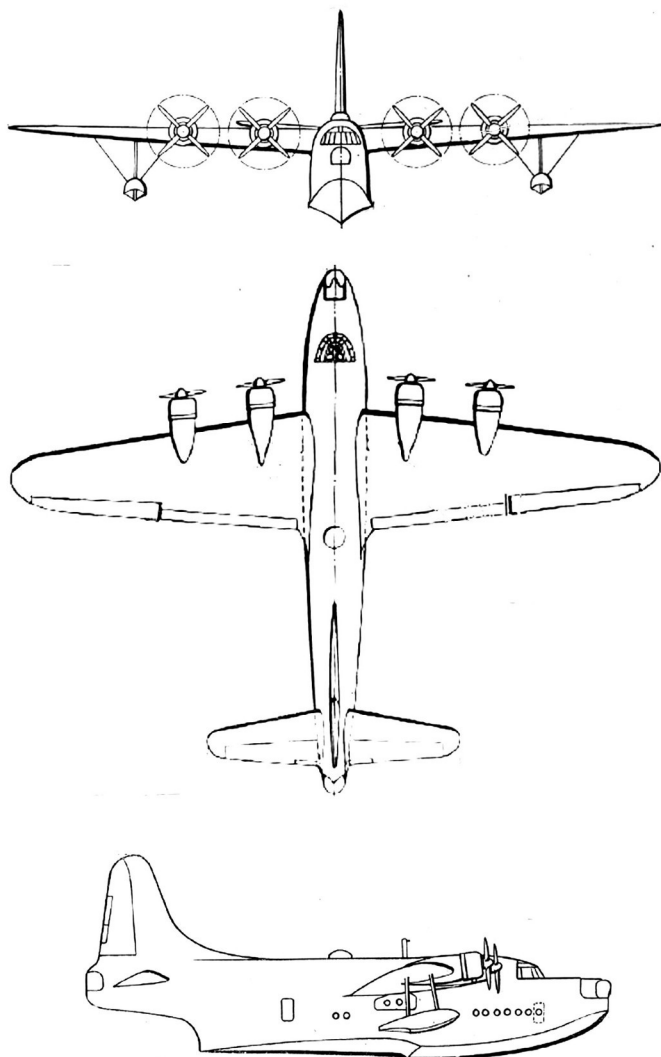
220 Squadron RAF was renumbered as 201 Squadron at RAF St Mawgan on 1 October 1958. The squadron was allocated the new Shackleton Mk3s and it was moved to Kinloss in 1965. The Shackletons were retired and the squadron converted to Nimrods in October 1970. After the Government decided to scrap the Nimrods, the squadron was disbanded on 26 May 2011.

A brief history of No. 57 Maintenance Unit

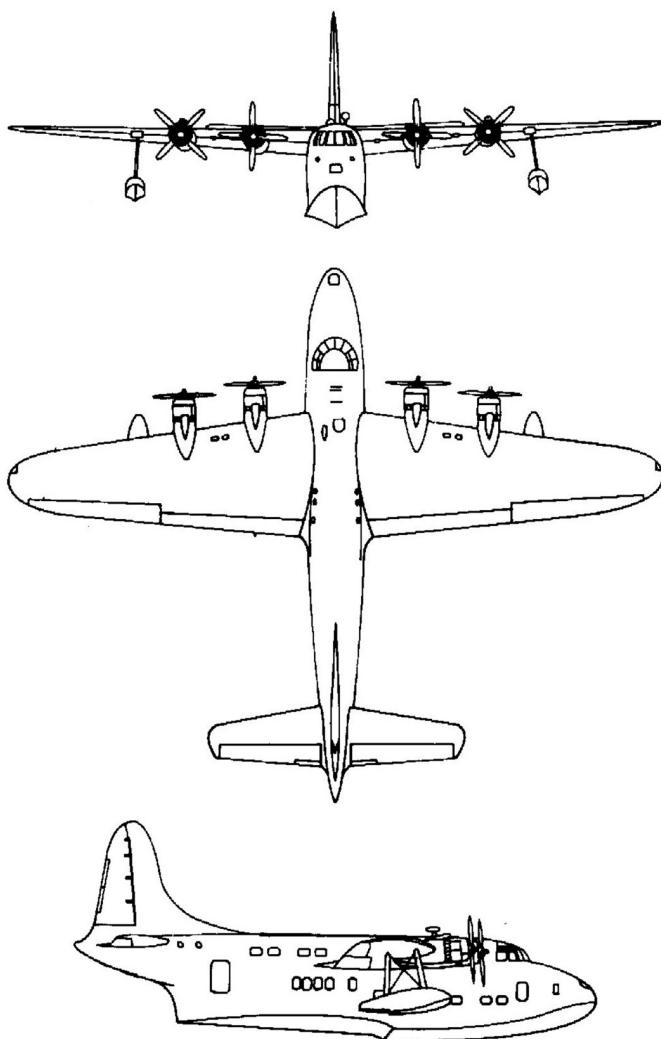
The website of the Scottish Saltire Aircrew Association (www.aircrew-saltire.org) has a section "*Wartime Airfields in Dumfries and Galloway. RAF WIG BAY*" (written by Dennis Sawden). This history of No. 57 MU is closely based on that section and on the information and photographs appearing on the website of The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS).

RAF Wig Bay was set up on 12 March 1942. It has sheltered moorings on the western shore of Loch Ryan. The opening of this unit took the pressure off RAF Stranraer (located at the south end of the loch). In July 1943 major overhauls of Sunderland flying boats were being undertaken at Wig Bay. No 57 MU was formed at Wig Bay on 8 October 1943. RAF Wig Bay continued in operation after the war, in support of the RAF's Sunderland squadrons worldwide. In 1948 the unit site was handed over to Short & Harland Ltd, who had been contracted by the RAF to maintain its fleet of Short Sunderlands. No. 57 MU was disbanded 1 October 1951. RAF Wig Bay closed in November 1955. The hardstandings for the aircraft can still be seen at the site.

Short S.45 Seaford Mk.I Three-View Drawing. Scale 1 to 400



Short S.45 Solent Mk.II Three-View Drawing. Scale 1 to 400



Illustrations



Production Short S.45 Seaford (thought to be NJ205)
© IWM (ATP 14556B)



Production Short S.45 Seaford NJ205
© IWM (ATP 14556C)



**Short S.45 Solent Mk. III N9946F (originally Short Seaford NJ203) being moved by barge from Richmond, California, USA to Oakland Airport, California, August 1987.
Photograph courtesy of dsleeter_2000**



**Short S.45 Solent Mk. III N9946F (originally Seaford NJ203) now on display at Oakland Aviation Museum.
Photograph courtesy of 1000aircraftphotos.com**



**Short S.45 Solent Mk. III (originally Short Seaford NJ202).
Initially named "Seaforth" but re-named "City of London".
Photograph courtesy of Ed Coates collection.**



**T.E.A.L. Short S.45 Solent Mk. III ZK-AMQ "Aparima"
(originally Short Seaford NJ204) taking off from Fiji.
Photograph courtesy of Air New Zealand**

Acknowledgements

The following websites were used:

- www.wikipedia.org (main entries: Short Sunderland, Short Seaford, Short Solent, TEAL, BOAC, Aquila Airways)
- www.aviastar.org/index2.html (Virtual Aircraft Museum)
- www.historyofwar.org
- www.flightglobal.com (Flight International on-line archives)
- www.the-blueprint.com
- www.seawings.co.uk
- www.teal.co.nz
- www.century-of-flight.net
- www.aussieairliners.org
- www.nonplused.org
- www.1000aircraftphotos.com
- www.kiwiaircraftimages.com
- www.caa.co.uk (G-INFO UK Register Database. Provides information of UK aircraft registration)
- The Flying Boat Forum from www.seawings.co.uk
- www.aviation-safety.net
- www.ab-ix.co.uk (BOAC Fleet Position Dec 1945 to May 1969)
- www.pondskaters.f9.co.uk/home.htm (Wings on Windermere)
- www.gracesguide.co.uk (Information on Short Bros.)
- www.raf.mod.uk (RAF Website)
- www.rafweb.org
- www.aircrew-saltire.org (Scottish Saltire Aircrew Association)
- www.rcahms.gov.uk The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS)
- www.pilotfriend.com
- www.edcoatescollection.com

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The following publications were used:

- "Aircraft of the Royal Air Force since 1918", (published by Putnam). Owen Thetford
- "Shorts Aircraft since 1900" (published by Putnam). Barnes and James
- "The Short S.45 Seaford", by Bill Mortimer (downloaded from www.seawings.co.uk)
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