

FAMOUS AIRPORTS
OF THE WORLD

by

JOHN STROUD

FREDERICK MULLER LTD.
LONDON

1454

Southern and Hythe

operated, was one of the old first war aerodromes which, being close to the coast, had been much used as a refueling stop by the early cross-Channel air services. It was a grass area, none too flat, which was over 350 feet above sea level and was often affected by bad weather. As Silver City Airways' traffic increased it became obvious that Lypne was not capable of handling it and so the company decided to build its own airport devoted to the operation of the vehicle-ferry aircraft.

The new airport, Ferryfield, was opened for traffic in the summer of 1954. There are two runways, which measure 4,050 feet and 3,500 feet, and both of these can be extended considerably into the flat land which surrounds the airport.

The simple terminal building was designed to produce the fastest handling of cars and passengers from the entrance road, through Customs and on to the Bristol Freighter nose-loading aircraft. The Customs area has been lined out so that any vehicles which will stand within the lined area and which will also pass beneath the railway-type loading gauge will definitely fit into the hold of the Bristol Freighter. At times of peak traffic Silver City has made over 200 cross-Channel flights in one day.

Some of the most picturesque and spectacular airports in Britain are those on the Scottish islands. The airport at Sumburgh on the southern tip of the Shetlands lies in a hollow between two great headlands, Sumburgh Head and Fitful Head. Some of its runways start, and end, at the sea, which is a few feet below in calm weather but breaks over them in storms. The approaches to Sumburgh, close beside the great cliffs, are really impressive in winter, with high clouds of spray rising vertically from the rocks

and great seabirds wheeling beneath the approaching aircraft.

In the Hebrides, as a result of the war, a number of the islands were given, or had thrust upon them, long runways such as the one which virtually divides Tiree into two. But at Barra, that beautiful and almost tropical island, the only landing place is on the hard expanse of white cockle beach at North Bay.

Beaches have often been used as aerodromes and the stretch at St. Aubin's Bay at St. Helier, in Jersey, served as that island's airport for several years until its proper airport was opened in 1937. The use of the sands made necessary the publication of one of the most complicated airline timetables, since all services had to operate at low tide. However, no aeroplane was ever caught by the sea, although the motor bus which served as a traffic office was swamped by the incoming tide.

Before the days of hard runways good beaches were the only places from which heavily over-laden aircraft could take-off on some of the pioneering long-distance flight attempts. Many of these aircraft, in their attempts to cross the North Atlantic, struggled off from the beaches of Ireland.

Ireland still plays its part in the system of North Atlantic air communications. Although its own plans to inaugurate transatlantic air services have all come to nothing, that country has its own international airport which is used as first or last call in Europe by numerous airlines. This is the now famous Shannon Airport.

When the first experimental North Atlantic commercial air services began in 1937, they were flown by Imperial Airways' and Pan American Airways' flying-boats, and these used a refuelling base at Foynes, near the present

Shannon Airport. Later on, during the war, flying-boats used Foynes, and provision for a flying-boat base was made in the airport design, but only landplane services have in fact been operated.

For some considerable time Shannon possessed good runways and primitive buildings while Dublin Airport had a very impressive terminal building looking out on to a grass area devoid of runways. Dublin Airport now has runways capable of taking large four-engined aircraft and Shannon has its new temporary buildings which, although not wonderful, appear to be adequate and have been designed to allow easy expansion.

The story of the airports of many countries is not unlike that of London. Small grass fields served for the operation of the pioneering air services but these have now been replaced by large modern airports, either on other sites or by means of continual development of the original ones.

Chapter Three

AIRPORT STANDARDS

INTERNATIONALLY AGREED FACILITIES AND DIMENSIONS

It is obvious that, in a business as essentially international as aviation, a great deal of standardization is not only desirable but necessary. Large transport aircraft flying the world's air routes require runways of certain minimum dimensions, and their crews require standard procedures to work to. Measurements of airports, wind strengths and other essential information must be presented at airports in ways readily understandable to the crews of many nationalities. Radio and radar aids must as far as possible be standardized, otherwise it would mean that aircraft would have to carry a costly and weighty range of equipment to work safely on different parts of their routes.

After the second world war the International Civil Aviation Organization, known as ICAO, was brought into being to standardize requirements and practices internationally. At present about 60 governments are members of this organization.

The work of ICAO covers many aspects of aviation, but in this book we are concerned only with its work on airports. A system of airport categories has been evolved by ICAO, whereby a letter and a number indicates the minimum length of runway available at a given airport,

on the design of practical heliports for cities where frequent flights of large passenger-carrying helicopters are certain to take place in the not too distant future. These heliports, when they are built, will have large take-off and landing areas, passenger-handling buildings, maintenance and refuelling areas for the helicopters, as well as many of the other services now associated only with large airports. Lighting, radio and radar aids will have to be provided and controlled routes will have to be established into and out of the city centres.

Such heliports will not be established immediately but they must come, and space will have to be found for them with safe and comparatively unobstructed approach routes.

Chapter Twelve

MARINE AIRPORTS

THE DECLINE OF THE FLYING-BOAT AND ITS LIKELY RETURN

MARINE airports are, alas, much less common now than in the past, when for many years the British trunk air routes, and much of Pan American Airways' system, were operated with large flying-boats.

A base from which flying-boats operate can be as simple as a single buoy to which the flying-boat or seaplane ties up, as at Harstad in Arctic Norway, or it can be a unit with flying-boat docks, slipways, passenger terminal and maintenance buildings.

The first sustained British flying-boat service was opened in 1923 between Southampton and Guernsey in the Channel Islands. At the Southampton end of the route the little Sea Eagle boats used the Supermarine company's slipways at Woolston, and at Guernsey the harbour of St. Peter Port.

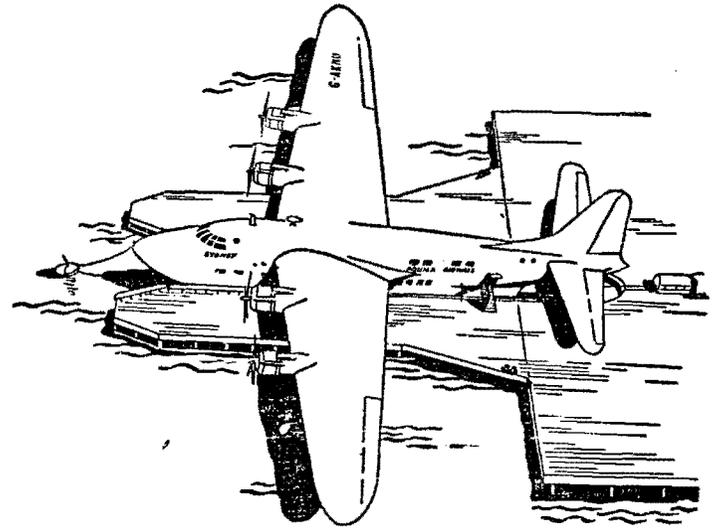
As part of the survey for British long-distance air routes, Sir Alan Cobham made two outstanding flights with marine aircraft. The first of these was made in the summer of 1926, and was from England to Australia and back. He used a single-engined de Havilland 50 biplane, fitted with floats for the journey as far as Darwin in

Northern Territory. There the D.H. 50 was fitted with wheels for the rest of the journey to Melbourne. On completion of the return flight the D.H.50 alighted on the Thames beside the Houses of Parliament.

Cobham's other great flight with a marine aircraft was his 20,000 miles survey flight round Africa, made in 1927-28 with the Rolls-Royce engined Short Singapore flying-boat. Cobham surveyed the route along the Nile, across the great lakes and down the east coast, returning *via* the west coast route. The Singapore was moored to buoys, laid down for the purpose, during the course of the journey, and was taken out of the water a few times for inspection and to have its hull cleaned.

When, in 1929, the Cairo-Baghdad-Basra air service of Imperial Airways was extended west to London and east to Karachi, flying-boats were used for the trans-Mediterranean sector of the route, and in 1931, when the air route from England to Central Africa was inaugurated, flying-boats operated the stage from Khartoum in the Sudan to Mwanza at the south of Lake Victoria. The flying-boat facilities were, generally speaking, rather primitive, with buoys for mooring, and launches for embarking and disembarking passengers.

In 1934 the Government decided that, as far as possible, all first class mail for British territories should be carried by air without extra charge, and to carry out this scheme a fleet of four-engined C-class flying-boats was built by Short Brothers at their works beside the Medway at Rochester in Kent. These flying-boats took over the operation of the trunk routes from England to South Africa, and to India and Australia, and the development of marine airports and alighting areas then began.



MARINE AIRPORT

A Short Solent flying-boat shown moored in its floating pontoon. The boat is winched in astern to the dock, and on departure taxis out under its own power.

Safe alighting and take-off areas were surveyed, buoys were positioned, and fleets of radio-equipped control launches, auxiliary launches and refuelling craft were commissioned. Imperial Airways, the company which operated the flying-boats, established a large base at Hythe, on Southampton Water, with a maintenance hangar and a slipway for manoeuvring the flying-boats in and out of the water. The flying-boats were moored to buoys and the passengers were taken to the boats from Southampton Docks by launch. This method was not very satisfactory, and to improve loading and unloading facilities a raft, consisting of two rectangular piers, was moored in Southampton Water. The flying-boat was positioned between the piers and loading was done from

them) but launches still had to be used to get to and from the raft.

The next step, a great improvement, was to take the raft and moor it at right angles to the dockside at Berth 108. The raft was connected to the dockside by sloping ramps, the flying-boats were warped stern first into the raft and the passengers went aboard simply by walking down the ramp from the dock. A passenger-handling unit was set up in one of the large shipping sheds, which passengers entered in special trains from Waterloo or Victoria Stations. The flying-boats thus took their place beneath the towering bows and sterns of the great ocean liners, and the use of passenger launches was dispensed with.

Buoys and launches still had to be used in many places along the routes, but combined marine and land airports were built at Basra in Iraq and Singapore, and a civil marine airport was opened in 1938 on Lake Bracciano, north of Rome.

Before the war there was a project for the preparation of a large marine airport at Langstone Harbour, to the east of Portsmouth. This airport was to have had three dredged take-off lanes and two taxi-channels, and alongside the flying-boat base there was to have been a land airport. During the war the flying-boat operations were transferred to Poole Harbour, in Dorset, where launches were again used.

After the war the Langstone project was again discussed, as well as the provision of a flying-boat base at the confluence of Southampton Water and the Solent. There was also a scheme for a marine airport on the Thames near Gravesend, but nothing came of any of these plans and so the flying-boats just moved back to

the Hythe base, where two embarkation rafts were positioned at the end of a jetty built out from the maintenance base.

In April 1948 a new flying-boat terminal was opened at Berth 50 in Southampton Docks, and this was used by British Overseas Airways Corporation as its flying-boat terminal until it withdrew all its flying-boat services in November 1950.

This Southampton Marine Terminal is now used by Aquila Airways, the only British operator to use flying-boats. This company maintains flying-boat routes to Madeira, the Canary Islands and the Italian Riviera. The Southampton terminal consists of a building with traffic offices, waiting rooms and Customs, and two U-shaped flying-boat docks into which the aircraft are winched stern first. The docks are connected to the terminal by inclined ramps and, if required, trains can be run into the terminal building. This is the only civil flying-boat terminal in the United Kingdom.

Many European countries operated flying-boat services in the period between the wars, the French and Italians operating extensively throughout the Mediterranean. Seaplanes were used on the Danube and there were numerous flying-boat routes around the Baltic and along the Norwegian coast. France and the German airline, Lufthansa, used large flying-boats on their South Atlantic mail flights, the German Dornier flying-boats being landed alongside depot ships on to which they were lifted for refuelling before being catapulted off the decks to resume their journeys. With the exception of some routes along the Norwegian coast, air services on all these routes are now flown by landplanes.

In South America, flying-boats and seaplanes were

used to pioneer air services, and Pan American Airways operated routes through the Caribbean and to South America with boats based at its Miami marine airport. Later, the four-engined Martin, Sikorsky and Boeing Clippers of Pan American Airways pioneered air services across the Pacific and, in co-operation with Imperial Airways, across the North Atlantic. These two companies also opened, in 1937, regular flying-boat services between New York and Bermuda. At that time Bermuda did not have a land airport, so a flying-boat base with hangars and slipways was constructed there.

For many years, until quite recently, flying-boats operated the routes linking Australia and New Zealand, and there are some flying-boat routes still being operated from these countries to the south-west Pacific, as well as in their local waters.

On the west coast of Canada, and in Alaska, flying-boats and seaplanes are continuing to give good service to small communities in areas where land airports cannot be provided. In most of these places the marine aircraft tie up to small wooden jetties and in fact often share quaysides with surface shipping.

The marine airport as such has almost disappeared, while the buoy, jetty and launch serve in somewhat primitive fashion the requirements of the seaplanes and flying-boats which still survive.

When flying-boats operated the trunk routes, such as that through Africa, it was much easier and cheaper to position a buoy and build a landing stage, than it was to prepare the large airports which would have been needed for aircraft as heavy as the flying-boats in use. However, when war came it brought with it the need for large aerodromes throughout the world, and these were constructed

with little consideration for cost. By the end of the war Britain was the only country operating its main trunk services with marine aircraft and this meant that the upkeep of flying-boat bases had to be borne entirely by one operator, so to cut the cost Britain gave up its flying-boats and used the land airports.

As aircraft increase in size, and already aircraft weighing nearly half a million pounds have flown, it seems likely that the flying-boat must come back into use. Increased weights of land aeroplanes mean ever stronger and longer runways, whereas there is no limit to the weight the sea can support.

A marine airport only needs a sufficiently long stretch of water for take-off runs into the appropriate wind direction, and channels dredged to sufficient depth, in place of the thousands of feet of concrete runway necessary to a land airport. The alighting area must be patrolled by launches to ensure that driftwood and other objects do not present a hazard to the flying-boats, lighted flare paths can be provided for night operations, and new mooring methods make it possible for the boats to contact buoys and be warped into their jetties within a very short time. Such marine bases can deal with large flying-boats operating over long distances, but it must be admitted that they cannot deal with short-haul high-density traffic.

As in the case of land airports, the International Civil Aviation Organization has recommended lengths, widths and depths for alighting and take-off channels, and dimensions and depths for turning basins and mooring areas. An ICAO Class A marine airport has take-off channels of 15,000 feet and over, while the code number 1 for a channel indicates a minimum depth of 15 feet.