

H. M. S. ALBION

H. M. S. Albion is an aircraft carrier of the Hermes class and the sixth ship in the Royal Navy to bear this name.

Crest : Alion on a white rock surrounded by sea.

Motto : Fortiter, Fideliter, Feliciter.

Battle Honours :

Grenada 1779
Martinique 1780
Washington 1814
Algiers 1816
Navarino 1827
Sevastopol 1854
Gallipoli 1915.

Builders : Messrs. Swan, Hunter and Wigham Richardson Ltd.,
Wallsend-on-Tyne.

Keel was laid down 23rd March, 1944.

Launched by Mrs Clement Attlee 6th May, 1947.

Commissioned 24th May, 1954.

Overall length 737 feet.

Extreme breadth 123 feet.

Peace complement : Approximately 1300 officers and men.

H. M. S. Albion was adopted by the Confederation of the Cinque Ports on 24th September, 1953.

The ship is still working up and has recently embarked some of her aircraft which consist of Seahawks, Skyraiders and Dragonfly helicopters.

The Commanding Officer, Captain G.H. Beale D.S.O., O.B.E., R.N., is a qualified Naval Observer. During World War II he served in both H. M. S. Ark Royal and H.M.S. Illustrious. While serving in the latter he was intimately concerned with the planning and organisation for the attack by the Fleet Air Arm on the Italian Fleet in Taranto on 11th November, 1940. Since the War he has served on the Naval Staff at the Admiralty, and subsequently was loaned to the Royal Australian Navy and was in command of their Naval Air Station at Nowra, New South Wales.

AVIATION.

H. M. S. Albion is the second British aircraft carrier to be fitted with an interim angled deck of $5\frac{1}{2}$ degrees to Port of the centre line of the axial deck. The first British carrier was H. M. S. Centaur, a sister ship of "Albion"

The angled deck system was tried and proved in the U. S. S. Antietam in 1953.

Previous to the introduction of the angled deck system, barriers were rigged across the deck approximately amidships to stop an aircraft, which had failed to hook an arrester wire, from crashing into aircraft parked on the forward end of the flight deck.

Whilst landing on, if an aircraft misses the arrester wires in this ship, the pilot merely opens his throttle and takes off again and can then make another approach to land on.

Aircraft and flight deck equipment are parked to the Starboard of the angled deck boundary line.

H. M. S. Albion is equipped with six wires capable of arresting any Naval aircraft in Service use. Two large aircraft lifts operate between the hangar and the flight deck, and an automatic bomb hoist provides weapons of all descriptions from the magazines to the flight deck and hangar.

This ship is the first carrier to be fitted with the "Mirror Landing Sight", a device whereby the pilot of an aircraft comes in to land on a predetermined flight path by keeping a reflected light in the centre of the mirror. In effect the mirror carries out automatically the duties of a "bateman".

H. M. S. Albion will have a complement of aircraft consisting of Hawker Sea Hawk jet fighters, Westland Wyvern turbo-prop strike fighters and Douglas Skyraider reconnaissance aircraft. Two Westland S 51 Dragonfly helicopters are also carried for search, rescue and communication duties.

HULL AND MACHINERY.

The ship has two shafts driven by similar turbine units. Each main engine unit is supplied from two Admiralty three-drum boilers, fitted with economisers and superheaters.

Steering arrangements comprise twin rudders which may be operated by steam, electric or diesel power units.

Air conditioning is available for the more important positions manned at action stations.

The ship has been designed to withstand considerable damage. Underwater protection is based on intense watertight subdivision between main transverse watertight bulkheads.

All important machinery is duplicated and self contained. Stores are dispersed forward and aft. Important services such as the "Ring Main" for the distribution of electrical power, and the fire main for providing fire fighting water, can be duplicated by means of emergency "runs". In short, the principle followed is duplication and dispersal.

In order to combat damage the ship is divided into three sections. Each section is a self contained unit provided with a local headquarters which controls repair teams within its own section.

Centrally placed there is a position known as Damage Control Headquarters, which is capable of receiving reports from all sections and assessing the overall damage. It also controls the transfer of liquids within the ship to correct heel and trim.

ELECTRICAL.

Electrical power is distributed by an armoured cable which encircles the ship internally just above the waterline. This "Ring Main" is fed by eight generators, four of which are steam driven and four diesel.

The distribution of power is centrally controlled by remotely operated switches from the Main Switchboard Room.

Most domestic services are electrically driven. Heat, lights (a great proportion of which are fluorescent), laundry, galley, bakery etc., all require electrical power.

The ventilation systems are almost entirely electrically driven. No less than 342 large fans are fitted, in addition to 400 smaller fans fitted in cabins, messes and offices.

Electrical power is also required for the gyro compasses, gun armament, radar and wireless installations, and the 500 line automatic telephone exchange.

Should the ship be damaged by enemy action or by accident, an elaborate system of emergency cables can be rigged to enable essential services to be maintained. In addition over 600 emergency lanterns are fitted which automatically are switched on should the main lighting fail.

GUNNERY.

Bombs of the biggest types can be carried, together with large quantities of aircraft rockets and ammunition for the strike and fighter aircraft.

The close range defensive gun armament comprise twenty six 40mm bofors guns, mostly carried in multiple power operated mountings. Each of these mountings is controlled by its own director, which, with precision radar, can automatically find and follow attacking aircraft even in fog or complete darkness.

UNDERWATER WEAPONS.

The ship is fitted to carry all airborne underwater equipment such as sonobuoys, mines and torpedoes.

LIFESAVING DEVICES.

New to H.M. Ships are the 90 inflatable rubber lifesaving rafts, each capable of taking twenty men. This equipment has resulted in a considerable saving in weight and space.

ACCOMMODATION, LESSING AND AMENITIES.

H.M.S. Albion has been fitted with the centralised messing system in which the Ship's Company take their meals in two large dining halls.

The Chief Petty Officers and Potty Officers are waited on by servers; the remainder of the Ship's Company (in the dining halls) serve themselves on the Cafeteria system. Each man collecting a tray from the scullery with his meal complete.

The great advantage of the cafeteria system are firstly, meals are always served hot, secondly, it has the effect of keeping food from the messdecks and thirdly, a far greater number can be served in less time and space.

All the messdecks are fitted with the latest type of kit locker and a bunk for each man. The bunks may be folded up into a vertical position when not in use.

In some cases certain bunks are removed and stowed away by day to make a small recreation space in which tables and chairs are placed.

Bathrooms are fitted with stainless steel wash basins, running hot and cold water, individual shaving lights and mirrors, and fresh water showers.

There is an up-to-date laundry which allows every officer and rating to send one bundle a week.

A canteen, bookstall, icecream and soda fountains, and a barbers shop are also onboard. These are staffed and run by N.A.A.F.I. personnel.

A library and a cinema are among the other amenities which are available.

There is a small church. In the interests of economy of space it is also used as a schoolroom.

SUPPLY

The everyday requirements of an aircraft carrier demand a multiplicity of stores to be carried, and space is found for about 30,000 different items of food, clothing, bedding, seamanlike stores and aircraft spares.

Over 40 storerooms are distributed throughout the ship so that supplies may be maintained even in the event of damage to part of them. There are large refrigerated spaces with separate compartments maintained at the correct temperatures for the preservation of meat, fish, dairy produce, fruit and vegetables. As an indication of quantities required, approximately $1\frac{1}{2}$ tons of meat and 10 tons of vegetables are consumed weekly.

The three galleys are equipped with electric ovens and machinery, steam heated serving counters and steam ovens. Separate preparing rooms are provided with potato peelers, a sausage machine and a bread and butter machine.

The bakery is fully automatic, electric machinery turning out bread, rolls, pies, cakes and tarts untouched by hand.

MEDICAL.

The Sick Bay is large and provided with 20 beds in four wards. Other facilities available are a well fitted out operating theatre, dispensary, certain X-ray, laboratory and physiotherapeutic equipment. The Sick Bay is air conditioned so that the best conditions prevail for the patients.

A SHORT HISTORY OF FORMER "ALBIONS"

OF THE ROYAL NAVY.

THE FIRST.

16th May, 1763. A 74-gun ship of 1,662 tons launched at Deptford.
June, 1773. Was present at the first Royal Review of the Fleet by H. M. King George III at Spithead.
6th July 1779. One of twenty-one ships under Vice-Admiral Sir John Byron which engaged a French fleet of twenty-five sail under Admiral D'Estaing off Grenada in the West Indies. The action was indecisive.
1780. Took part in Rodney's three actions with the French under Rear-Admiral de Guichenon off Martinique.
1794. Converted to a coastal defence ship, but was unfortunately wrecked.

THE SECOND.

1798. An armed sloop of 366 tons, built at Deptford.
1803. Was sold out of the Service.

THE THIRD.

1802. Launched on the Thames. A 74-gun ship of the line of 1,740 tons. This ship had a long and eventful career. The most interesting events being :-
May, 1814. The flag of Rear-Admiral Cockburn was hoisted in "Albion", and the ship subsequently took part in many actions of the American War of Independence.
27th August, 1816. Was part of the Mediterranean Fleet under Lord Exmouth which bombarded Algiers.
20th October, 1827. Was in the Battle of Navarino.
1836. Broken up at Deptford.

THE FOURTH.

1842. 90-gun ship of the line of 3,110 tons launched at Devonport.
1854. Took part in the Crimean War. Was badly damaged by enemy fire while bombarding Sevastopol.
1861. Fitted with a propeller and a steam engine of 1,335 H.P.
1884. Sold for breaking up.

THE FIFTH.

21st June, 1898. Twin-screw first class battleship of 12,950 tons, launched at Blackwall by the late Queen Mary.
February 1915. Joined the Fleet in the Dardanelles and took part in the bombardment of the Turkish defences, being almost continuously in action until the end of May of that year.
1919. Sold for breaking up.

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NEW BRITISH INVENTION TO AID FASTER AIRCRAFT

TO LAND ON CARRIERS

A new British invention intended to help the Navy to operate the faster aircraft of the future from the flight decks of aircraft carriers is announced by the Admiralty.

This new deck landing aid, a signalling system incorporating lights, mirrors and a gyro-mechanism, will, subject to the success of further trials, ultimately supersede that familiar flight deck figure, the "batsman".

Like those other British inventions, the angled deck and the steam catapult, the new aid has arisen from the future need to operate larger and faster aircraft from carriers. The Admiralty and the Ministry of Supply, consistently looking to these future requirements, carried out experiments which proved that the high rate of approach of future aircraft would not allow sufficient time for the human reactions between the Landing Signals Officer (the "batsman") and the pilot.

Basically the aid consists of a large curved mirror which the pilot watches when he approaches the carrier from astern. A blob of light is projected into this mirror from a group of lights in the after part of the carrier, and, if the pilot keeps this blob in line with a row of lights on either side of the mirror, he can ensure landing at the appropriate angle to the deck.

The device can be used both in aircraft carriers and on airfields. When used in carriers it is necessary to arrange for the mirror to remain at a constant angle regardless of the motion of the ship, and this is achieved by a gyro-mechanism perfected by Naval gunnery experts.

Since the pilot cannot take his eyes from the mirror sight in the aircraft carrier, he cannot look down to his instruments to check his speed of approach. To overcome this difficulty a special panel is arranged on the windscreen of the aircraft. In it reflects a red, yellow or green light, which tells the pilot whether he is flying too fast, too slow or just right. These lights are actuated by the air speed indicator.

In a series of trials organised in H.M. Ships ILLUSTRIOUS and INDOMITABLE the practicability of the new aid has been proved by some hundreds of landings. These have been made both by day and by night. The first night landings to be made with the new aid were accomplished by two pilots who had never before deck-landed at night.

Ultimately it is anticipated that one or more of these aids will be used in all carriers and at Naval Air Stations.

The idea for the new mirror sight was put forward by Commander (Engineering) H .C.N. Goodhart, R.N., a qualified test pilot, who was Technical Secretary to the Chief Naval Representative at the Ministry of Supply.

/Born in.....

Born in September, 1919, Commander Goodhart is a qualified pilot; has owned his own aircraft and has driven a motor-car in the Monte Carlo Rally. He is now Air Engineer Officer to the Naval Staff of the British Joint Services Mission, Washington.

The development of the new device has been advanced by a team led by Mr. D. Lean, of the Royal Aircraft Establishment, Farnborough. A native of Looe, Cornwall, Mr. Lean was born in 1919 and educated at Liskeard, Cornwall, and the University College of the South-West, Exeter, from where he joined the Royal Aircraft Establishment in 1939. Since that date he has worked in the Aerodynamics Department and is now Senior Scientific Officer.

Admiralty, S.W.1.

BRIEF HISTORY OF THE ANGLED DECK

The new flight deck arrangement known as the "angled deck" in the Royal Navy and the "canted deck" in the U.S. Navy was devised by the Royal Navy and the British Ministry of Supply. It has since been under development by both the British and U.S. Governments.

In August, 1951, consideration was being given to the future design of the aircraft flight deck layout. Captain D.R.F. Cambell, D.S.C., R.N., then Deputy Chief Naval Representative at the Ministry of Supply, in conjunction with Mr. L. Boddington of the Royal Aircraft Establishment, Farnborough, conceived the idea of angling the deck as a means of providing a clear flight-path, increasing the parking area and generally facilitating landing on. In the centre line layout, the barrier is, of course, an undesirable necessity to prevent un-arrested aircraft from crashing into aircraft parked forward. With the angled layout the barrier would be called into use only in rare emergencies.

At an early stage, the angled concept was communicated to the American authorities, who showed an interest in it equal to that of the British authorities, and it was decided to pursue the scheme simultaneously on both sides of the Atlantic.

Drawing board work, theoretical calculations and the marking out of the flight path on a model were followed by trials in H.M.S. TRIUMPH and H.M.S. ILLUSTRIOUS. The deck of the TRIUMPH was marked out at an angle and aircraft flew from it to test the visual problems presented to the pilot and the aerodynamic effects, such as those which arise from the slip stream of the island structure in various conditions of wind. For these experiments it was not necessary to alter the arrester wires.

In the ILLUSTRIOUS, with the barrier down and no parked aircraft, actual landings took place along the centre line but using the landing technique envisaged as necessary to reap the benefits of the angled deck. The aircraft touched down and flew off in the manner that will be standard on occasions when the aircraft cannot be satisfactorily brought to rest.

The combined results of these trials were taken as proof that the angled deck system was a practical proposition. Meanwhile, the U.S. Navy undertook the conversion of the U.S.S. ANTIETAM, including the angled flight path, angled arrester wires and flight deck extension.

The first British pilots to land on the angled deck were Lieutenant P.C. Chilton, R.N., Commanding Officer of No.806 Squadron, in a Hawker Sea Hawk, and Lieutenant R. Fluker, R.N., in a Supermarine Attacker, who landed on the ANTIETAM when she arrived at Portsmouth.

It will be seen that there has been full co-operation between Britain and the U.S. in the development of the angled deck. The U.S.N. has benefited from the original thought and the basic trials carried out in British carriers.

Admiralty, S.W.1.

BIOGRAPHY

CAPTAIN DENNIS ROYLE FARQUHARSON CAMBELL,
D.S.C., R.N.

Born in November, 1907, Captain D.R.F. Cambell, D.S.C., R.N., entered the Royal Navy as a Special Entry Cadet in 1925. He was appointed Deputy Chief Naval Representative at the Ministry of Supply, and Director of Naval Aircraft Development and Production (Admiralty) in October, 1950, an appointment which he held until May, 1953, when he entered upon an advanced staff course.

Captain Cambell commanded 803 Squadron in the ARK ROYAL in 1939, and, in the Birthday Honours of the following year, was awarded the D.S.C. for his general good services with the Fleet Air Arm. During 1940 and 1941 he was a test pilot at Boscombe Down. In 1942 he became Commander (Flying) in H.M.S. ARGUS, and in the following year was Senior Naval Representative on the British Air Commission, Washington. In 1945 he came to the Admiralty on the staff of the Director of Air Organisation and Training, and in 1947 was Commander (Air) in H.M.S. GLORY. After a period as Commanding Officer of the anti-submarine frigate TINTAGEL CASTLE, during which time he was promoted Captain, he became Captain (Training) on the staff of the Flag Officer (Air) Home, an appointment which he held until he went to the Ministry of Supply.

Admiralty, S.W.1.

21st September, 1954.

DEPARTMENT OF THE CHIEF OF
NAVAL INFORMATION,
ADMIRALTY, S.W.1.

ANGLE-DECK AIRCRAFT CARRIERS.

On Thursday next, 23rd September, the Press have been invited to see the working up of H.M.S. ALBION and to proceed to sea in her to witness a day's flying exercise by her air group. H.M.S. ALBION is the first of Her Majesty's aircraft carriers to be fitted with both an angled deck and the Mirror Sight landing device.

The first angled deck aircraft carrier was H.M.S. CENTAUR who has just joined the Mediterranean Fleet. To tie in with any film coverage obtained by your organisation in H.M.S. ALBION, it might be of interest to you to know that a short length of 35 m.m. film from H.M.S. CENTAUR is available. The length is 500 feet and the negative, under reference C.N.I.132, is with Kay (West End) Laboratories, Ltd., 22, Soho Square, London, W.1., who are authorised to accept your order for the supply of duping material should you require it.

The suggested line to be used to introduce this material is as follows:-

"While H.M.S. ALBION is operating in Home Waters, H.M.S. CENTAUR has been working up in the Mediterranean. There, senior officers of the Allied Headquarters staff, Mediterranean, have been taken on board by the Commander-in-Chief, Allied Forces, Mediterranean, (Admiral The Earl Mountbatten of Burma, who is also Commander-in-Chief Mediterranean). The party included senior French, Italian, Greek, Turkish, and British officers of the Allied Headquarters Staff, and during their visit they saw a demonstration of angled deck technique given by Seahawks, Sea Furies, and Avenger Squadrons of the Royal Navy".

A print of the film is available for screening in the Admiralty cinema.

BECAUSE OF THE GENERAL PRESS FACILITY IN H.M.S. ALBION ON 23rd SEPTEMBER, THERE IS A TIME STOP ON THE RELEASE OF THE ABOVE FILM WHICH CANNOT BE SHOWN IN CINEMAS OR ON TELEVISION UNTIL 24th SEPTEMBER.

With the Compliments
of the
CHIEF OF NAVAL INFORMATION.

For any further information please ring
WhiteHall 9000, Ext.789 (Reg Holmes)