

H. M. S. EAGLE

This is the twenty-first ship of the Royal Navy to bear the name.

CREST:- Azure, an eagle displayed argent, taloned gules.

MOTTO:- Arduus ad Solem.

BATTLE HONOURS:-	Portland	1653
	Gabbard	1653
	Lowestoft	1665
	Orfordness	1666
	Barfleur	1692
	Gibraltar	1704
	Ushant	1747
	Sadrás	1782
	Providien	1782
	Trincomalee	1782
	Calabria	1940
	Mediterranean	1940
	Malta Convoys	1942

BUILDERS:- Messrs. Harland and Wolff, Ltd., Belfast.

ORDERED :- 19th May, 1942

LAI D DOWN:- 24th October, 1942 as the AUDACIOUS. Renamed EAGLE on 21st January, 1946.

LAUNCHED:- 19th ^{MARCH} ~~MAY~~, 1946 by H.R.H. The Princess Elizabeth, Duchess of Edinburgh.

COMPLETED:- 31st October, 1951.

COMMISSIONED:- 31st October, 1951.

DISPLACEMENT:- 36,800 tons

LENGTH :- 720 ft. (P.P.) 803³/₄ ft (O.A.)

BEAM :- 112³/₄ ft.

COST :- £15,000,000 (less gun armament)

PEACE COMPLEMENT :- About 2,000 officers and men.

Handwritten notes:
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The Commanding Officer is Captain Guy WILLOUGHBY, a Naval Pilot, who entered the Service through Osborne and Dartmouth in 1916. Between the wars he served in the Aircraft Carriers HERMES, COURAGEOUS, FURIOUS and GLORIOUS, the battle cruiser REPULSE, and the cruiser YORK. At the beginning of World War II he was serving for the second time in the carrier GLORIOUS, as Commander (Air). Later he served in the Admiralty for a period and then commanded the escort carrier ACTIVITY. Towards the finish of the war he was Chief Staff Officer to Rear-Admiral (Air) in the Eastern Fleet and also served in the aircraft carriers ILLUSTRIOUS and INDOMITABLE.

In 1945 he was appointed Director of Naval Air Warfare at the Admiralty in 1947 he attended the Imperial Defence College, and, in 1948, went to Australia to advise the Commonwealth Government concerning the introduction of Aviation into the Royal Australian Navy. He was then appointed Fourth Naval Member of the Australian Commonwealth Navy Board and held the rank of Commodore, Second Class. He returned home in 1950 and took up his appointment as Commanding Officer (designate) H.M.S. EAGLE in March, 1951.

SOME REMARKS ON THE DESIGN AND CONSTRUCTION OF H.M.S. EAGLE.

General

H.M.S. EAGLE is the logical outcome of the trend in aircraft-carrier design which started with the ARK ROYAL in 1936 and produced such ships as the ILLUSTRIOUS and the FORMIDABLE which were so successful in the late war. She is however much larger than her forerunners. This is for a variety of reasons - the increase in the size of naval fighter and strike aircraft with the consequent requirements for larger hangars and longer flight decks; the need for heavy radar gear to be mounted high above the water line; and the higher minimum standard of crew accommodation - all these, as well as other factors have tended to increase the size and weight of the modern armoured Fleet Carrier. Side by side with this increase in size, her striking power, represented by her strike aircraft, and her capacity for defence, represented by her fighter aircraft, her gun armament, and the details of her design, have also increased. Moreover all the hard learnt war lessons of the control of action damage have been incorporated in her design so that, even if she does appear to represent a "lot of eggs in one basket", the "basket" should prove an extremely difficult one to sink.

Aviation

H.M.S. EAGLE is the first carrier, in any Navy, to be built to operate the modern naval jet aircraft now in service and she has been fitted with all the many and complex devices necessary for this to be done with speed and efficiency.

The flight deck covers an area of more than two acres and, in addition to such well-tried devices as arrester wires and safety barriers, two of the most modern catapults for launching aircraft are fitted. The Island structure built up on the starboard side of the flight deck, is in itself as large as a frigate and houses the radio, radar, and plotting rooms necessary to the efficient operation and direction of ships and aircraft at sea.

There are two hangars which can accommodate the largest Naval carrier borne aircraft. A good idea of their size can be gained from the fact that 263 double-decker buses could be stowed in the two hangars. Adjacent to the hangars are fitted the various workshops and stores that are used to keep the aircraft and their equipment serviceable. In addition, special provision

is made for the amintenance and repair of aircrew safety equipment, such as parachutes and dinghies.

Two large lifts are fitted - their total area is greater than that of two tennis courts. A large variety of flight deck transport (e.g. mobile cranes, fork lift trucks etc.) is provided to enable the aircraft and their armament and equipment to be moved about easily and quickly.

Special provision has been made so that aircraft weapons, such as bombs, rockets and torpedoes, can be brought from the magazines below and fitted to the aircraft on the flight deck in the shortest possible time.

Two cranes are fitted, one either side of the flight deck, so that aircraft may be hoisted on board from lighters or amphibians from the sea. Those cranes are also used for hoisting boats and embarking stores and ammunition.

Hull and Machinery

The main engines consist of four identical sets of steam turbine machinery. Each unit has two Admiralty three-drum boilers. Great use has been made of electric welding in the construction of the hull and this has saved an appreciable amount of weight. The hull is sub-divided into many watertight compartments to prevent uncontrolled flooding in case of action damage.

The ventilation system is extremely intricate and has been designed to give the best possible living conditions in both Arctic and tropical waters. Many spaces, including stores, offices, workshops, the Sick Bay and living spaces are fully air-conditioned and in such spaces the air temperature should be kept at a comfortable level whatever the external temperature and humidity. There is about 5 miles of ventilation trunking in the ship.

Particular attention has been paid to the lessons learnt during the war on the control and repair of action damage. Special damage control headquarters and facilities have been built into the ship so that she may be swiftly brought back to full fighting efficiency. Fire is an ever-present danger in a ship which carries petrol, and the fire fighting equipment is provided on a lavish scale - the hangars can be sprayed with sea water from special fittings not unlike those found in most big modern stores and factories. Failure of electric power can be swiftly rectified and arrangements are made to enable the ship to be brought upright from large angles of list. The steering gear is extremely reliable and many alternative sources of power are provided for working it.

Gunnery

The guns are intended as a dual purpose defensive armament. The following are fitted:-

Sixteen 4.5" guns in twin HA/LA turrets.

Numerous multiple and single 40 mm. Bofors guns.

The former are arranged in four batteries and each battery has a first class, battle tested control system which is capable of engaging targets travelling at very high speeds. Radar control is also provided which enables targets to be engaged at night or in low visibility and with an accuracy corresponding to that achieved in visual fire.

The Bofors gun mountings are controlled by special radar controlled directors, which are extremely accurate and give an extremely high percentage of hits at their effective ranges.

Seamanship

Fifteen power boats and three sailing dinghies are stowed on board. The former can be used for carrying stores, or officers and men on leave or duty. The latter are for recreational purposes. A special workshop is fitted for repairing the power boat engines.

Three bower anchors, each weighing $9\frac{1}{2}$ tons, are fitted and there are many fathoms of special cable, each link being forged from a steel bar 3" in diameter.

Special arrangements are fitted to enable fuel, ammunition and stores to be embarked at sea, thus enabling the ship to stay at sea for many days at a time, as was done in the Pacific during the late war. The arrangements can, of course, be reversed so that escorting destroyers with lower endurance can keep up with their charge.

Bow protector paravanes are fitted for use in mined waters.

Electrical

Electric power is used on board for a multiplicity of duties. The main generating machinery could supply the needs of a small town - say Oxford, and there is over a thousand miles of electric cable in the ship.

Many compartments, including all offices and living spaces, are lit by fluorescent lamps, and electric radiators are widely fitted.

The radar equipment is of the latest pattern and ships and aircraft can be detected at a great range.

The radio equipment is also of the latest design and enables radio contact to be maintained on a large number of wave-lengths with out-stations of all kinds at great distances. The aerials for many of the sets are hung on hinged masts on the side of the flight deck, which can be lowered horizontal when flying is in progress.

The internal communications within the ship consists of a complexity of telephones and broadcast systems. A recent departure in warship design represented by the fitting for the first time of a large automatic dial telephone exchange.

Three gyro compasses are fitted for navigation purposes.

A full system of flight deck lighting is fitted so that flying can continue at night with little loss of efficiency.

Accommodation, Messing and Amenities.

It is in this field that perhaps the greatest strides have been made in British warship design in the past decade.

In H.M.S EAGLE the centralised messing system has been introduced in which the Ship's Company take their meals in two large dining halls. The Chief and Petty Officers are waited on by teams of servers; the remainder of the Ship's Company (in the other dining Hall) serving themselves on the cafeteria system. Apart from the obvious advantages of this system, such as the fact that the meals are always served hot, it has the effect of removing all meals from the mess decks so that these become in effect sleeping and recreation spaces. On his mess deck, each man has his own kit locker, and another smaller locker for his personal effects. The ship's company sleep in hammocks and many of the mess decks are

air conditioned. Bathrooms are fitted close to each mess deck and these are well equipped with tiled decks, stainless steel wash basins, running hot and cold water, individual shaving lights and mirrors, and fresh water showers in curtained cubicles.

The galleys are fitted with the most modern electric cooking machinery and labour saving devices, such as sausage machines, potato peelers, bread and butter machines, and automatic waste disposal units. The modern galley is fully automatic and not only bread and rolls, but pies, cakes and tartlets can be made. In all these domestic spaces the machinery has been installed, and they have been fitted out so that they may be kept scrupulously clean.

The laundry is capable of doing the weekly wash for every person on board. The machinery is fitted to deal with the most exacting type of work, and the finish of the articles is of a high quality.

A canteen, two ice cream and soda fountains and a barbers shop are fitted on board. They are staffed and run by N.A.A.F.I. personnel on a non-profit making basis.

A large library, and a cinema which shows many of the latest films, are provided on board. Both are extremely popular.

A small air-conditioned chapel is fitted in a part of the ship where there is little noise and this provides a quiet place for meditation and prayer.

Medical

By their very design and employment, accidents are more likely to happen in an aircraft carrier than in any other type of ship. So, as might be expected, full provision is made for all kinds of medical treatment to be given. There are three large wards with a total of over thirty beds, a well-fitted operating theatre and a dental surgery. An injured man can be brought from the flight deck to the sick bay in a few seconds, and during the illness and convalescence he is assured of the best possible physical conditions by the air conditioning system which is fitted. Other emergency medical stations, and a secondary operating theatre, are fitted under armour for dealing with action casualties.

Supply and Secretariat.

The galley and bakery have already been mentioned. The victualling department is responsible for providing all the requirements of these places and, in addition, the supply and of clothing and bedding for the ship's company. Their stores are stowed in over a dozen storerooms dispersed about the ship to prevent all the foodstuffs being lost in one hit. Over 14,000 cubic feet of refrigerated space is provided and this is divided into special cold and cool rooms so that the various items such as meat, dairy produce, fish and fruit and vegetables are kept in the best possible condition for fear of mutual contamination.

The Stores Department provides all the other stores requirements in the ship. They have more than twenty storerooms and in them are stowed a bewildering complexity of items ranging from soap to aircraft parts, and rope to radio valves - over 10,000 in all.

The Secretariat is responsible for all the correspondence which comes to the ship, and also keeps the pay ledgers and record sheets of all the Ship's Company.

THE PREVIOUS SHIPS NAMED EAGLE

1. The EAGLE of LUBECK (894 tons) - purchased from the Hanseatic League for £70 in 1592 - used as a hulk for taking ordnance out of ships at Chatham. Sold 1683.
2. An East India Company ship (350 tons - 22 guns). In 1625, in four actions against the Portugese in the Gulf of Oman (en route to the Persian Gulf) - wrecked off Coromandel (east) coast of India on 15th March, 1640.
3. A shallop guard duties in the Channel (circa 1645).
4. A frigate of 150 tons, 12 guns, captured from the Dunkirkers and by a London privateer and hired for the use of the Commonwealth. Present at Ayescue's action off Plymouth (16th August, 1640) and Blake's three day fight off Portland (18th-21st February, 1653) (First Dutch War). Returned to her owners in 1665.
5. An East Indiaman hired for six months in 1653 but not in action.
6. A fifth rater of 299 tons (22 guns) - built at Wapping as the SMLBY (to commemorate a Parliament victory in the Civil War) - renamed EAGLE at the Restoration. With the Duke of York when he was victorious at the Battle of Lowestoft (3rd June 1665 - Second Dutch War) - converted to a fireship (1674) but not used. Put into reserve at Sheerness and later sunk there to form a breakwater.
7. A fire-ship captured from the Dutch as the SPREAD EAGLE 91666) Expended in the Four-Dau Fight (1st-4th June, 1666).
8. Captured from Algerine pirates (1670). Expended in the first night attack on pirates at Bougie (2nd May, 1671).
9. Purchased and fitted as a fire-ship in 1672. Foundered on passage to St. Helena (April 1653).
10. A third rate of 1047 tons (70 guns) - built at Portsmouth in 1679. With Admiral Russell at defeat of French off Barfleur (19th May, 1692). Admiral Sir George Rook's flagship at the boat attack on the remains of the French fleet sheltering at La Hogue (10 ships burnt) (23rd May, 1692) - present at the abortive attack on Cadiz (1702) - at capture of Gibraltar (24th July, 1704) - expended all powder and shot and suffered heavy casualties at Battle off Velez Malaga (13th August, 1704). Lost with all hands when five ships of a small squadron under Admiral Sir Cloudesly Shovel ran ashore near the Scilly Isles in thick weather (22nd October, 1707). In all about 2,000 men including Admiral Shovel were drowned.
11. A despatch boat built at Arundel (1696) - employe in the Channel until wrecked on the Sussex coast in the great storm of 1703.
12. A fourth rate of 1130 tons (60 guns) built at Portsmouth in 1745. October 1746 - fought and captured the Spanish privateer ESPERANZA and a few days later the French privateer SHOREHAM (a captured British Ship).

June, 1747 - with Hawke in action with a French Squadron escorting outward bound convoy of 245 French West Indiamen. Captured six out of eight of the escort - convoy scattered but many captured later in the West Indies.

August, 1747 - in company with the EDINBURGH and NOTTINGHAM captured French privateer BELLONE - later **bought** for the Navy and renamed BELLONA.

March, 1748 - with Commodore Cote's squadron which captured a Spanish convoy off Morocco.

May, 1757 - fought and captured French privateer DUC A'ACQUITAINE (50 guns) - gaused her heavy casualties but had only a few men hurt herself.

1758 - Completely dismasted and badly damaged in a hurricane off the American coast. Found to be beyond repair and lay as a hulk until sold for £600 in June, 1767.

James Cook, later Captain Cook, the explorer, served in her as an Able Seaman and later as Boatswain from June, 1755 to July, 1757.

13 A gunboat of 8 guns built in Bombay in 1754.

14 A third rate of 1372 tons (64 guns) launched on the Thames in 1774.

February 1776 - September 1778 - Admiral Lord Howe's flagship on the North American Station during the American War of Independence.

1779 - To India with a squadron under Admiral Hughes.

1782 - 1783 - In five indecisive battles with the French under Admiral Suffren.

1786 - Came home and paid off.

1797 - Renamed BUCKINGHAM and made into a prison ship. Many of the mutineers from the Nore served their sentences in her.

1812 - Broken up.

15 A gunboat (4 guns) bought for use in the channel in 1794 and sold in 1802 (Part of the "anti-invasion flotilla")

16 A gunboat (12 guns) captured from the French as the VENTURA (1803) Renamed EAGLE and later renamed ECLIPSE.

17 A third rate of 1723 tons (74 guns) built at Northfleet in 1804.

1804 Blockading off Texel
1805 With Cornwallis off Brest.
1806 At capture of Capri and blockading of Gaeta in the Mediterranean.
1807-08 With Collingwood blockading Toulon.
1809 The Walcheren expedition (A costly failure).
1810-13 On detached duties in the Adriatic. Involved in numerous minor engagements and operations.
1815 Paid off for repairs at Chatham
1832 Razed to a 50-gun ship for the coastguard.
1860 Made a drill ship at Southampton
1862 A drill ship at Liverpool. Later head-quarters ship of the Mersey Division R.N.V.R.
1918 Renamed EAGLET
1926 Broken up.

18 A gunboat (11 guns) captured from the Americans on Lake Champlain in 1813. Renamed CHUBB and lost in the following year.

19 An excise cutter built at Bridport in 1816 and later transferred to the Coastguard.

20 An aircraft carrier originally intended as the Chilean battleship ALMIRANTE COCHRANE, but converted during construction in 1917. Launched by the wife of the American Ambassador and commissioned for trials in April, 1920.

1927 - Base ship for the R.A.F. flight which won the Schneider Trophy at Venice. Found a missing Spanish seaplane forced down in the sea near

- 1931 -- Paid a courtesy visit to South America in conjunction with the British Empire Trade Exhibition in Buenos Aires.
- 1933 -- Commissioned for service on the China Station
- 1934 -- Her aircraft were instrumental in forcing the surrender of some Chinese pirates holding several Europeans to ransom in a hideout near the Yellow River.
- 1937 -- Recommissioned for service on the China Station.
- June, 1940 -- Arrived in the Eastern Mediterranean for service under the command of Admiral (now Admiral of the Fleet Lord) Cunningham
- 9th July, 1940 -- Battle of Calabria. Her aircraft scored one torpedo hit on an Italian cruiser.
- 1940 - 1941 -- Present on many "club-runs". Her aircraft had many successes including an attack on Bomba (22nd August, 1940) when they sank four ships with three torpedoes.
- April 1941 -- Returned home for a refit.
- Early 1942 -- Joined the Fleet in the Western Mediterranean. Principally employed in passing convoys through to Malta.
- 12th August, 1942 -- Torpedoed by a submarine whilst in convoy to Malta and sunk.
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