# Aircraft carrier



Two aircraft carriers, <u>USS John C. Stennis</u> (left), and <u>HMS Illustrious</u> (right), showing the difference in size between a <u>supercarrier</u> and a light <u>V/STOL</u> aircraft carrier



The Russian aircraft carrier Kuznetsov



The French aircraft carrier Charles de Gaulle

An **aircraft carrier** is a <u>warship</u> whose main role is to deploy and recover <u>aircraft</u>—in effect acting as a sea-going airbase. Aircraft carriers thus allow a naval force to project <u>air power</u> great distances without having to depend on local bases for land-based aircraft. Modern navies, who operate such ships, treat aircraft carriers as the centerpiece of the fleet, a role previously played by the <u>battleship</u>. The change, part of the growth of air power as a significant part of warfare, took place during <u>World War II</u>. Unescorted carriers are considered vulnerable to attack by other ships, aircraft, submarines or missiles and therefore travel as part of a <u>carrier battle group</u>.

### Flight deck configuration



The island of the USS Enterprise

Modern aircraft carriers have a flat-top deck, the flight deck that serves as a take-off and landing area for aircraft. Aircraft take off to the front, into the wind, and land from the rear. Carriers steam at speed, for example up to 35 knots (65 km/h), into the wind during take-off in order to increase the apparent wind speed, thereby reducing the speed of the aircraft relative to the ship. On some ships, a steampowered catapult is used to propel the aircraft forward assisting the power of its engines and allowing it to take off in a shorter distance than would otherwise be required, even with the headwind effect of the ship's course. On other carriers, aircraft do not require assistance for take off — the requirement for assistance relates to aerocraft design and performance. Conversely, when landing on a carrier, some aircraft rely upon a tailhook that catches on arrestor wires stretched across the deck to bring them to a stop in a shorter distance than normal. Other aircraft utilise their hover capability to land vertically and so require no assistance in speed reduction upon landing. Since the end of World War Il it has been common to direct the landing recovery area off to port at an angle to the line of the ship. The primary function of the angle deck landing area is to allow aircraft who miss the arresting wires, refered to as a "bolter", to become airborne again without the risk of hitting aircraft parked on the forward parts of the deck. The angle deck also allows launching of aircraft at the same time as others land.

The above deck areas of the warship (the <u>bridge</u>, flight <u>control tower</u>, engine exhausts and so on) are concentrated to the <u>starboard</u> side of the deck in a relatively small area called an "island". Very few carriers have been designed or built without an island and such a configuration has not been seen in a fleet sized carrier.

A more recent configuration, used by the <u>Royal Navy</u>, has a 'ski-jump' ramp at the forward end of the flight deck. This was developed to help launch <u>VTOL</u> (or <u>STOVL</u>) aircraft (aircraft that are able to take off and land with little or no forward movement) such as the <u>Sea Harrier</u>. Although the aircraft are

capable of flying vertically off the deck, using the ramp is more fuel efficient. As catapults and arrestor cables are unnecessary, carriers with this arrangement reduce weight, complexity, and space needed for equipment.

# **Common types**

Over the course of the last century there have been several types of aircraft carrier, some of which are now obsolete. They can be generally categorised as follows:

# Initial designs and inter-war developments

- <u>Seaplane tenders</u>, such as <u>HMS Engadine</u>, out of frontline use after the 1920s when carriers
  capable of handling conventional airplanes came into fleets and the superiority of landplanes
  over <u>seaplanes</u> in naval operations became firmly established.
- Standard carriers, such as <u>HMS Ark Royal</u>, typically 20,000 to 65,000 tons. Often known as "fleet carriers."
- Flying aircraft carrier; airship that can carry aircraft. Example include USS Akron and Macon

# **World War II developments**



HMCS Bonaventure, a Majestic Class aircraft carrier of the Royal Canadian Navy

- Escort carriers, such as <u>USS Barnes</u>, were built only during World War II, and were used by the Royal Navy and U.S. Navy.
- Light aircraft carriers, such as USS *Independence*, were designed to primarily carry fighters.
- <u>CAM ships</u>, such as <u>SS *Michael E*</u>, cargo carrying merchant ships which could launch but not retrieve fighter aircraft. These vessels were an emergency measure during <u>World War II</u>.
- Merchant aircraft carriers (MACs), such as MV Empire MacAlpine, another emergency measure which saw cargo-carrying merchant ships equipped with flight decks.
- <u>Carrier battleships</u> were created by the Imperial Japanese Navy to partially compensate for the
  loss of carrier strength at <u>Midway</u>. Two of them were made from <u>Ise class</u> battleships. The aft
  turrets were removed and replaced with a hangar, deck and catapult.
- <u>Submarine aircraft carriers</u>, such as the French <u>Surcouf</u>, or the Japanese <u>I-400 class</u> <u>submarines</u> which were capable of carrying 3 <u>Aichi</u> <u>M6A Seiran</u> aircraft. The first of these were built in the 1920s.

In addition, many battleships, cruisers and merchant raiders were equipped with floatplanes for reconnaissance.

# Post-war developments

- Amphibious assault carriers, such as <u>USS Tarawa</u>, which often also serve the purpose of carrying and landing <u>soldiers</u> and operate a large contingent of helicopters for that purpose. Also known as "commando carriers" or "helicopter carriers."
- Anti-submarine warfare carriers, such as HMS Ocean, also known as "helicopter carriers."
- Supercarriers, such as <u>USS Nimitz</u>, typically 75,000 tons or greater.

Some <u>cruisers</u> and <u>capital ships</u> of the inter-war years often carried a catapult launched seaplane for reconnaissance and spotting the fall of the guns. It was launched by a catapult and recovered by crane from the water after landing. These were mostly removed during World War II, but had some notable successes early in the war as shown by <u>HMS Warspite</u>'s <u>Walrus</u> during operations in the Norwegian fjords in 1940.

Many modern warships have <u>helicopter</u> landing capability and helicopter assault ships represent a new form of amphibious assault carrier.

# **History and milestones**

#### **Genesis**



Ely takes off from USS *Birmingham*, <u>14 November</u> <u>1910</u>



Ely lands on USS *Pennsylvania*, 18 January 1911.

As heavier-than-air aircraft developed in the early 20th century various navies began to take an interest in their potential use as scouts for their big gun warships. A number of experimental flights were made to test the concept. Eugene Ely was the first pilot to launch from a stationary ship in November 1910. He took off from a structure fixed over the forecastle of the US armoured cruiser USS Birmingham at Hampton Roads, Virginia and landed nearby on Willoughby Spit after some five minutes in the air. On January 18, 1911 he became the first pilot to land on a stationary ship. He took off from the Tanforan racetrack and landed on a similar temporary structure on the aft of USS Pennsylvania anchored at the San Francisco waterfront—the improvised braking system of sandbags

and ropes lead directly to the arrestor hook and wires described above. His aircraft was then turned around and he was able to take off again. <u>Commander</u> Charles Samson, RN, became the first airman to take off from a moving warship on <u>May 2</u>, <u>1912</u>. He took off in a <u>Short S27</u> from the battleship <u>HMS Hibernia</u> while she steamed at 10.5 knots (19 km/h) during the <u>Royal Fleet Review</u> at <u>Weymouth</u>.

HMS Ark Royal was the first aircraft carrier. She was originally laid down as a merchant ship, but was converted on the building stocks to be a seaplane carrier. Launched in 1914, she served in the <a href="Dardanelles">Dardanelles</a> campaign and throughout World War I.

The first strike from a carrier against a land target took place on <u>July 19</u>, <u>1918</u>. Seven <u>Sopwith Camels</u> launched from <u>HMS Furious</u> attacked the German <u>Zeppelin</u> base at <u>Tondern</u>, with two 50 lb bombs each. Several <u>airships</u> and <u>balloons</u> were destroyed, but as the carrier had no method of recovering the aircraft safely, two of the pilots ditched their aircraft in the sea alongside the carrier while the others headed for neutral <u>Denmark</u>.

# The inter-war years



The first flat deck, HMS Argus in 1918



The first purpose-designed aircraft carrier, the <u>Imperial Japanese Navy</u>'s <u>Hosho</u>, in 1922

The <u>Washington Naval Treaty</u> of 1922 placed strict limits on the tonnages of battleships and <u>battlecruisers</u> for the major naval powers after <u>World War I</u>, as well as limits not only on the total tonnage for carriers, but also an upper limit on 27,000 tonnes for each ship. Although exceptions were made regarding the max ship tonnage (fleet units counted, experimental units did not), the total tonnage could not be exceeded. However, while all of the major navies were over-tonnage on battleships, they were all considerably under-tonnage on aircraft carriers. Consequently, many battleships and battlecruisers under construction (or in service) were converted into aircraft carriers. The first ship to have a full length flat deck was <u>HMS Argus</u> the conversion of which was completed in <u>September 1918</u>, with the <u>U.S. Navy</u> not following suit until 1920, when the conversion of <u>USS Langley</u> had completed. The first American fleet carriers would not join the service until <u>1928</u> (<u>USS Lexington (CV-2)</u> and <u>USS Saratoga (CV-3)</u>).

The first purpose-designed aircraft carrier to be developed was the <u>HMS Hermes</u>, although the first one to be commissionned was the Japanese *Hosho* (commissioned in December 1922, followed by HMS *Hermes* in July 1923). *Hermes*' design preceded and influenced that of the Hosho, and its construction actually began earlier, but numerous tests, experiments and budget considerations delayed its commission.

By the late <u>1930s</u>, aircraft carriers around the world typically carried three types of aircraft: <u>torpedo bombers</u>, also used for conventional bombings and <u>reconnaissance</u>; <u>dive bombers</u>, also used for reconnaissance (in the U.S. Navy, this type of aircraft were known as "scout bombers"); and <u>fighters</u> for fleet defence and bomber escort duties. Because of the restricted space on aircraft carriers, all these aircraft were of small, single-engined types, usually with <u>folding wings</u> to facilitate storage.

### **The Second World War**

Aircraft carriers played a significant role in <u>World War II</u>. With seven aircraft carriers afloat, the Royal Navy had a considerable numerical advantage at the start of the war as neither the Germans or the Italians had carriers of their own. However, the vulnerability of carriers to traditional battleships was quickly illustrated by the sinking of <u>HMS Glorious</u> by German battlecruisers during the Norwegian campaign in 1940. By World War II, seaplane carriers were no longer considered to be equals to carriers which could operate conventional aircraft, as conventional planes could fly farther, faster, with heavier weapons loads and greater performance; by the end of the war, early helicopters were taking over many of the roles of seaplanes.

This apparent weakness to battleships was turned on its head in November 1940 when <a href="HMS">HMS</a> Illustrious launched a long-range strike on the Italian fleet at <a href="Taranto">Taranto</a>. This operation incapacitated three of the six battleships in the harbour at a cost of two of the 21 attacking <a href="Fairey Swordfish">Fairey Swordfish</a> torpedo <a href="bombers">bombers</a>. Carriers also played a major part in reinforcing <a href="Malta">Malta</a>, both by transporting planes and by defending convoys sent to supply the besieged island. The use of carriers prevented the Italian Navy and land-based German aircraft from dominating the Mediterranean theatre.

In the Atlantic, aircraft from HMS *Ark Royal* and <u>HMS *Victorious*</u> were responsible for slowing <u>Bismarck</u> during May 1941. Later in the war, escort carriers proved their worth guarding convoys crossing the Atlantic and Arctic oceans.

Many of the major battles in the Pacific involved aircraft carriers. <u>Japan</u> started the war with ten aircraft carriers, the largest and most modern carrier fleet in the world at that time. There were six American aircraft carriers at the beginning of the hostilities, although only 3 of them were operating in the Pacific.



Planes from the Japanese aircraft carrier <u>Shokaku</u> preparing the attack on <u>Pearl Harbor</u>.

Drawing on the 1939 Japanese development of low-depth runs for aerial torpedoes, and the 1940 British aerial attack on the Italian fleet at Taranto the 1941 Japanese surprise <a href="attack on Pearl Harbor">attack on Pearl Harbor</a> was a clear illustration of the <a href="power projection">power projection</a> capability afforded by a large force of modern carriers. Simultaneously, the Japanese began their advance through South East Asia and the <a href="sinking of Prince of Wales and Repulse">sinking of Prince of Wales and Repulse</a> by Japanese land-based aircraft drove home the need for this ship class for fleet defence from aerial attack. In April 1942, the Japanese Fast Carrier Strike Force ranged into the <a href="Indian Ocean">Indian Ocean</a> and sank shipping, including the under-repair and undefended carrier <a href="HMS Hermes">HMS Hermes</a>. Smaller Allied fleets with inadequate aerial protection were forced to retreat or be destroyed. In the <a href="Coral Sea">Coral Sea</a>, US and Japanese fleets traded aircraft strikes in the first battle where neither side's ships sighted the other. At the Battle of Midway four Japanese carriers were sunk in a surprise attack by planes from three American carriers and this is considered to be the turning point of the war in the Pacific.

Subsequently the US was able to build up large numbers of aircraft aboard a mixture of fleet, light and (newly commissioned) escort carriers. These carriers played a major part in winning the <a href="Pacific war">Pacific war</a>. The eclipse of the battleship as the primary component of a fleet was clearly illustrated by the sinking of the largest battleship ever built, <a href="Yamato">Yamato</a>, by carrier-borne aircraft in 1945. Japan also built the largest aircraft carrier of the war, <a href="Shinano">Shinano</a>, which, like <a href="Yamato">Yamato</a>, was named after a Japanese province.

#### Wartime innovations



India's INS Viraat.

Combat experience proved that the British invention of the sealed "hurricane bow" which protected against storms was superior to any other use for the very front of the ship, be it machine-guns or a second flight deck. This became standard for British and American carriers. The Japanese carrier <u>Taiho</u> was the first of their ships to incorporate it.

Starting late in the war with the <u>Midway class</u>, American carriers had grown so large that it was no longer practical to continue the concept of designing the hangar deck to be the strength deck, and all subsequent American carriers have the flight deck as the strength deck, leaving only the island as superstructure.

# **Light Aircraft Carriers**

The loss of three major carriers in quick succession in the Pacific led the US Navy to develop the light carrier (CVL) from <u>light cruiser</u> hulls that had already been laid down. These were intended to add fighter squadrons to a task force, and were used in the US Navy only during World War II. The Royal Navy made a similar design which served both them and <u>Commonwealth</u> countries after World War II. One of these carriers, India's <u>INS Viraat</u>, formerly <u>HMS Hermes</u>, is still being used.

# [edit]

### **Escort Carriers and Merchant Aircraft Carriers**

To protect Atlantic <u>convoys</u>, the British developed what they called <u>Merchant Aircraft Carriers</u>, which were merchant ships equipped with a flat deck for half a dozen aircraft. These operated with civilian crews, under merchant colors, and carried their normal cargo besides providing air support for the convoy. As there was no lift or hangar, aircraft maintenance was limited and the aircraft spent the entire trip sitting on the deck.

These served as stop-gap until dedicated <u>escort carriers</u> could be built in the US (US classification *CVE*). About a third of the size of a fleet carrier, it carried about two dozen aircraft for anti-submarine duties. Over one hundred were built or converted from merchantmen.

Escort carriers were built in the US from two basic hull designs: one from a merchant ship, and the other from a slightly larger, slightly faster tanker. Besides defending convoys, these were used to transport aircraft across the ocean. Nevertheless, some participated in the battles to liberate the <a href="Philippines">Philippines</a>, notably the <a href="battle-off Samar">battle-off Samar</a> in which six escort carriers and their escorting destroyers briefly took on five Japanese battleships and bluffed them into retreating.

### **Catapult Aircraft Merchantmen**

As an emergency stop-gap before sufficient merchant aircraft carriers became available, the British provided air cover for convoys using *Catapult aircraft merchantman* (CAM ships) and merchant aircraft carriers. CAM ships were merchant vessels equipped with an aircraft, usually a battle-weary Hawker Hurricane, launched by a catapult. Once launched, the aircraft could not land back on the deck and had to ditch in the sea if it was not within range of land. Over two years, fewer than 10 launches were ever made, yet these flights did have some success: 6 bombers for the loss of a single pilot.

# The Angled Deck

During the Second World War, aircraft would land on the flight deck parallel to the long axis of the ship's <a href="https://pubm.nih.google.com/html">https://pubm.nih.google.com/html</a>. Aircraft which had already landed would be parked on the deck at the bow end of the flight deck. A crash barrier was raised behind them to stop any landing aircraft which overshot the landing area because its landing hook missed the arrestor cables. If this happened, it would often cause serious damage or injury and even, if the crash barrier was not strong enough, destruction of parked aircraft.

An important development of the <u>1940s</u> was the British invention of the angled deck, where the runway was canted at an angle of a few degrees across the ship. If an aircraft misses the arrestor cables, the pilot only needs to increase <u>engine</u> power to maximum to get airborne again and will not hit the parked aircraft because the angled deck points out over the sea. The picture of <u>USS John C. Stennis</u> at the top shows an angled landing deck.

# **Post-War Developments**



Landing optics of Charles de Gaulle

The modern steam-powered catapult, powered by steam from the ship's <u>boilers</u> or reactors, was invented by Commander C.C. Mitchell <u>RNVR</u>. It was widely adopted following trials on <u>HMS Perseus</u> between 1950 and 1952 which showed it to be more powerful and reliable than the compressed air catapults which had been introduced in the 1930s. As now only <u>nuclear powered</u> carriers have boilers as part of their motive power system, the majority of aircraft carriers are now equipped with steam generating plant solely to power the catapults.

Another British invention was the glide-slope indicator (also known as a "meatball"). This was a gyroscopically-controlled lamp on the port side of the deck which could be seen by the aviator who was about to land, indicating to him whether he was too high or too low in relation to the desired glidepath. It also took into account the effect of the waves on the flight deck. The device became a necessity as the landing speed of aircraft increased.

The US Navy prematurely attempted to become a strategic nuclear force with the project to build <u>United States</u>, termed CVA, with the "A" signifying "atomic". This ship would have carried twin-propeller bombers, each of which could carry an atomic bomb. The project was cancelled under pressure from the newly-created <u>United States Air Force</u>, and the letter "A" was re-cycled to mean "attack." But this only delayed the growth of carriers. Nuclear weapons would put to sea despite Air Force objections in 1955 aboard <u>USS Forrestal</u> (CVA-59), and by the end of the fifties the Navy had a series of nuclear-armed attack aircraft.

The US Navy took nuclear power afloat in other ways by building aircraft carriers powered by nuclear reactors. <u>USS Enterprise</u> was the first aircraft carrier to be powered in this way and subsequent supercarriers took advantage of this technology to increase their endurance. The only other nation to have followed the US lead is France with *Charles de Gaulle*.

The post-war years also saw the development of the helicopter with different capabilities to a fighter aircraft. Whereas fixed-wing aircraft are suited to air-to-air combat and air-to-surface attack, helicopters are used to transport equipment and personnel and can be used in an <a href="mailto:anti-submarine">anti-submarine</a> warfare role with dipped sonar and missiles.

In the late <u>1950s</u> and early <u>1960s</u>, the UK converted some of its old carriers into Commando Carriers, sea-going helicopter airfields like <u>HMS *Bulwark*</u>. To militate against the expensive connotations of the term "aircraft carrier", the new <u>Invincible class</u> carriers were originally designated "through deck cruisers" and were initially helicopter only craft to operate as escort carriers. The arrival of the Sea Harrier meant they could carry fixed wing aircraft despite their short flight deck.

# Aircraft carriers today



Flight operations on the deck of USS Abraham Lincoln

Aircraft carriers are generally the largest ships operated by <u>navies</u>; a *Nimitz*-class carrier powered by two <u>nuclear reactors</u> and four <u>steam turbines</u> is 1092 ft (333 m) long and costs about \$5 billion. The United States has the majority of aircraft carriers with a dozen in service, and its aircraft carriers are a cornerstone of American power projection capability.

Nine countries maintain aircraft carriers: <u>United States</u>, <u>United Kingdom</u>, <u>France</u>, <u>India</u>, Russia, <u>Spain</u>, <u>Brazil</u>, <u>Italy</u> and <u>Thailand</u>. In addition the <u>People's Republic of China's People's Liberation</u> <u>Army Navy</u> possesses the former <u>Soviet</u> aircraft carrier <u>Varyag</u>, but most naval analysts believe that they have no intention to operate it, but instead are using <u>Varyag</u> to learn about carrier operations for a future Chinese aircraft carrier. China, Japan, <u>Pakistan</u>, <u>Australia</u> and <u>Chile</u> also operate helicopter-carrying vessels.

Aircraft carriers are generally accompanied by a number of other ships, to provide protection for the relatively unwieldy carrier, to carry supplies, and to provide additional offensive capabilities. This is often termed a battle group or carrier group, sometimes a carrier battle group.

#### Modern carriers



**HMS** Hermes

More modern uses of aircraft carriers include the <u>Falklands War</u>, where the United Kingdom was able to win a conflict 8,000 miles (13,000 km) from home in large part due to the use of the full size carrier HMS *Hermes* and the smaller <u>HMS *Invincible*</u>. The Falklands showed the value of a <u>VSTOL</u> aircraft—the <u>Hawker-Siddeley Harrier</u> (the RN Sea Harrier and press-ganged RAF Harriers) in defending the fleet and assault force from shore based aircraft and for attacking the enemy. Helicopters from the carriers were used to deploy troops and pick up the wounded.

The US has also made use of carriers in the <u>Persian Gulf</u>, <u>Afghanistan</u> and to protect its interests in the Pacific. Most recently, the <u>2003 invasion of Iraq</u> featured US aircraft carriers as the primary base of US air power. Even without the ability to place significant numbers of aircraft in Middle Eastern airbases, the United States was capable of carrying out significant air attacks from carrier-based squadrons.

In the early 21st century, worldwide aircraft carriers were capable of carrying about 1250 aircraft. US carriers accounted for over 1000 of these; the second leading country, the United Kingdom fielded over 50 aircraft. The United Kingdom and France are both undergoing a major expansion in carrier capability (with a <u>common ship class</u>), but the United States will still maintain a very large lead.

#### **Future aircraft carriers**

Several nations which currently possess aircraft carriers are in the process of planning new classes, to replace current ones.

# French Marine Nationale

The <u>French Navy</u> has set in motion plans for a <u>second aircraft carrier</u>, to supplement *Charles de Gaulle*. The design is to be much larger, in the range of 50–60,000 tonnes, and will not be nuclear-powered like *Charles de Gaulle*. There are plans to work with the Royal Navy to develop a joint design, by <u>BAE Systems</u> and <u>Thales</u>, around the Royal Navy CVF programme



A model of Admiral Gorshkov after reconfiguration.

India started the construction of a 37,500 tonne, 252 metre-long aircraft carrier in <u>April 2005</u>. The new carrier will cost US\$762 million and will operate <u>MiG 29K 'Fulcrum'</u> and Sea Harrier aircraft along with Russian- and Indian-made helicopters. The ship will be powered by four turbine engines and when completed will have a range of 7,500 nautical miles, carrying 160 officers, 1400 sailors, and 30 aircraft. The carrier is to be constructed by a state-run shipyard in southern India. In 2004, India also bought <u>Admiral Gorshkov</u> from <u>Russia</u> for US\$1.5 billion; it is expected to join the <u>Indian Navy</u> in 2008 after a refit. [1]

### Italian Marina Militare

The construction of the conventional powered <u>Marina Militare</u> V/STOL aircraft carrier <u>Cavour</u> began in 2001. It is being built by <u>Fincantieri</u> of Italy. After much delay, <u>Cavour</u> is expected to enter service in 2008 to complement the Marina Militare aircraft carrier <u>Giuseppe Garibaldi</u>. A second aircraft carrier in the 25-30,000 ton range is much desired by the Italian Navy, to replace the already decommissioned carrier <u>Vittorio Veneto</u>, but for budgetary reasons all further development is on hold.

# People's Republic of China

In June 2005, it was reported by boxun.com that <u>China</u> would build a US\$362 million aircraft carrier with a displacement of 78,000 tons, to be built by the Jiangnan Shipyard in <u>Shanghai</u>. The report was denied by Chinese defense official *Zhang Guangain*. [2]

# **Royal Navy**

The Royal Navy is currently planning two new larger aircraft carriers (as yet only known as CVF) to replace the three <u>Invincible class</u> carriers currently in service. These two ships are expected to be named <u>HMS Queen Elizabeth</u> and <u>HMS Prince of Wales</u>. They will be able to operate about 50 aircraft and will have a displacement of around 60,000 tonnes. The two ships are due to enter service in 2012 and 2015 respectively. Their primary aircraft complement will be made up of <u>F-35 Joint Strike Fighter</u>, and their ship's company will number around 1000.

The two ships will be the largest warships ever built for the Royal Navy. Initially to be configured for STOVL operations, the carriers are to be adaptable to allow any type of future generation of aircraft to operate from them.

### **Russian Federation**

Has one operational aircraft carrier, Admiral Kuznetsov.



Russian Admiral Kuznetsov

The Russian Federation is currently developing new aircraft carrier designs. They are starting from scratch to make a modern model, with the newest available materials and electronics. The construction stage is set to begin soon, with two aircraft carriers - one for the Russian Baltic Fleet and one for the Russian Pacific Fleet to be built by 2010. It is rumored that they will be paired up with *Sukhoi Su-47 Fighters*, which are currently in development.



Spanish Buque de proyección estratégica

### Spanish Armada Española

The project for the 231 meter-long and 25,000-30,000 tons conventional powered <u>Buque de Proyección Estratégica</u> (Strategic projection vessel) for the Spanish navy was approved in 2003, and its construction started in August 2005, being <u>Navantia</u> in charge of the project. The <u>Buque de proyección estratégica</u> is a vessel designed to operate both as <u>amphibious assault</u> vessel and as VSTOL aircraft carrier, depending on the mission assigned. The design was made keeping in mind the low-intensity conflicts in which the Spanish Armada is going to be involved in the future. When it is configured to operate as VSTOL aircraft carrier, the operating range will be about 25,000 tons, and it will operate a maximum of 20 <u>Matador AV-8B+</u>, F-35 or a mixed force of both aircraft. The ship is provided with a Sky-Jump and a tri-dimensional radar based combat system, and she will be the second operating aircraft carrier of the Spanish navy after *Príncipe de Asturias*.

### **US Navy**



### CVNX/CVN-21

The current US Fleet of <u>Nimitz-class</u> carriers are to be followed into service (and in some cases replaced) by the <u>CVN-21</u>/CVNX Carrier. It is expected that the ships will be larger and will operate more aircraft than the 80 or so of <u>Nimitz</u>, and will also be designed for lower detectability by radar.

### Aircraft carriers in fiction

See the article on <u>aircraft carriers in fiction</u> for more information.

### See also

- List of aircraft carriers
  - List of aircraft carriers by country
  - List of aircraft carriers by type
  - List of aircraft carrier classes of the United States Navy
  - List of aircraft carrier deployments
- List of amphibious warfare ships
- Project Habbakuk

# List of aircraft carriers

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The **list of aircraft carriers** contains all <u>aircraft carriers</u> listed alphabetically by name.

For listings by other methods, see:

- <u>List of aircraft carriers by country</u>
- <u>List of aircraft carriers by type</u>

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Α

- <u>Abraham Lincoln</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered <u>supercarrier</u>.
   Commissioned 11 November 1989 and currently in service with the <u>United States Navy</u>.
- <u>Activity</u> (UK): 11,420 ton escort <u>aircraft carrier</u>, converted from a cargo ship hull. Served in World War II.
- <u>Admiral Gorshkov</u> (USSR): 42,000 ton <u>Kiev class</u> hybrid aircraft-carrying <u>cruiser</u>.
   Commissioned in <u>1982</u> as <u>Baku</u>, renamed <u>4 October 1990</u>, and retired in <u>1996</u>. Sold to <u>India</u> to become INS <u>Vikramaditya</u>.
- <u>Admiral Flota Svetskogo Soyuza Kuznetsov</u> (Russia): 43,000 ton <u>Kuznetsov class STOBAR</u> aircraft carrier. Launched in <u>1985</u> as *Tiblisi*, renamed and operational from <u>1995</u>, currently in service. (formerly *Tbilisi*)
- <u>Akagi</u> (Japan): 42,000 ton fleet carrier. Originally laid down as an <u>Amagi class battlecruiser</u>, commissioned <u>27 March</u> <u>1927</u> and sunk on <u>4 June</u> <u>1942</u>.
- Akitsu Maru (Japan)
- <u>Albatross</u> (Australia): 4800 ton seaplane carrier. Commissioned <u>21 December 1928</u>, decommissioned <u>26 April 1923</u>, transferred to the United Kingdom in <u>1938</u>, broken up in the 1950s.
- <u>Altamaha</u> (USA): 14,400 ton <u>Bogue class</u> escort carrier, commissioned <u>31 October 1942</u> and immediately transferred to the United Kingdom as HMS <u>Battler</u>.
- Amagi (Japan): 17,150 ton Unryu class light fleet carrier. Built in 1944 and sunk 27 July 1945.

- <u>America</u> (USA): 62,000 ton <u>Kitty Hawk class</u> supercarrier, commissioned <u>23 January 1965</u> through 9 August 1996.
- Antietam (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>28 January</u> <u>1945</u> through <u>8 May 1963</u>.
- <u>Aquila</u> (Italy): 23,500 ton aircraft carrier. Conversion from liner *Roma* begun <u>1941</u>, construction stopped <u>1943</u>, never completed. BU <u>1951-1952</u>.
- <u>Archer</u> (UK): 8,200 ton <u>Long Island class</u> escort aircraft carrier. Commissioned <u>17 November 1941</u>, became *Empire Lagan* aircraft ferry <u>3 August 1944</u>, and returned to the United States <u>8 January 1946</u>.
- <u>Arromanches</u> (France): 13,400 ton <u>Colossus class</u> light aircraft carrier. Aquired as HMS Colossus in 1946 from the United Kingdom, BU 1978.
- <u>Attacker</u> (UK): 14,400 ton <u>Bogue class</u> escort carrier, former <u>USS Barnes</u>, commissioned <u>30</u>
   <u>September 1942</u> through <u>5 January 1946</u> when returned.
- Avenger (UK): 8,200 ton aircraft carrier, sunk November 15, 1942

### [edit]

### В

- <u>Baku</u> (USSR): 42,000 ton <u>Kiev class</u> hybrid aircraft-carrying <u>cruiser</u>. Commissioned in <u>1982</u> and renamed *Admiral Gorshkov* on <u>4 October 1990</u>.
- <u>Barnes</u> (USA): 14,400 ton <u>Bogue class</u> escort carrier, commissioned <u>30 September 1942</u> and immediately transferred to the United Kingdom as HMS <u>Attacker</u>.
- <u>Bataan</u> (USA): 11,000 <u>Independence class</u> light carrier, commissioned <u>17 November 1943</u> through <u>9 April 1954</u>.
- <u>Battler</u> (UK): 14,400 ton <u>Bogue class</u> escort carrier, former USS <u>Altamaha</u>, commissioned <u>31</u> <u>October 1942</u> through <u>12 February 1946</u> when returned to the United States.
- <u>Béarn</u> (France): 22,146 ton aircraft carrier converted from a <u>Normandie class</u> battleship hull.
   Commissioned in <u>1927</u>, decommissioned <u>1945</u>, broken up <u>1967</u>.
- <u>Belleau Wood</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>31 March</u> <u>1943</u> through <u>13 January</u> <u>1947</u>, later transferred to France as *Bois Belleau*.
- <u>Bennington</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>6 August 1944</u> through <u>15 January 1970</u>.
- <u>Block Island</u> (USA): 9800 ton <u>Bogue class</u> escort aircraft carrier. Commissioned <u>8 March</u> <u>1943</u> and sunk <u>29 May</u> <u>1944</u>.
- Bogue (USA): 9800 ton Bogue class escort carrier. Commissioned 26 September 1942.
- <u>Bon Homme Richard</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>26 November</u> <u>1941</u> through <u>2 July 1971</u>.
- <u>Bonaventure</u> (Canada): 16,000 ton <u>Majestic class</u> light aircraft carrier. Acquired from the
  United Kingdom as the incomplete HMS *Powerful* after 1950, commissioned <u>15 January 1957</u>,
  decommissioned <u>3 July 1970</u>, and broken up in <u>1971</u>.
- <u>Boxer</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>16 April</u> <u>1945</u> through 1 December 1969.
- <u>Bunker Hill</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>24 May 1943</u> through <u>9 January 1947</u>.

# edit

C

- <u>Cabot</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>24 July 1943</u> through <u>21 January 1955</u>, later trasferred to Spain as <u>Dédalo</u>.
- <u>Campania</u> (UK): 11,420 ton aircraft carrier
- Campinas (France): (1896) (merchantman converted to seaplane carrier) fate unknown
- <u>Carl Vinson</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier. Commissioned <u>13</u> March 1982 and in current service.
- <u>Casablanca</u> (USA): 7800 ton <u>Casablanca class</u> escort carrier. Commissioned from <u>8 July 1943</u> to <u>10 June 1946</u>.
- <u>Cavour</u> (Italy): 26,660 ton <u>V/STOL</u> aircraft carrier. Planned for commissioning in <u>2008</u>.
   Formerly named *Andrea Doria*.
- <u>Chakri Nareubet</u> (Thailand): 10,000 ton <u>V/STOL</u> aircraft carrier. Commissioned <u>10 August</u> 1997.
- <u>Charles De Gaulle</u> (France): (1994) (nuclear powered)
- Chitose (Japan)
- Chiyoda (Japan)
- <u>Chuyo</u> (Japan)
- Clemenceau (France) (1957) Sold to breakers in 2003, currently in India awaiting scrapping
- Colossus (UK): 13,200 ton aircraft carrier, class of 10
- <u>Commandante Teste</u> (1929) (aviation transport) Scuttled at Toulon 1942, refloated 1946, BU 1950s?
- Commencement Bay (USA): 10,900 ton aircraft carrier, class of 11
- <u>Constellation</u> (USA): 62,000 ton <u>Kitty Hawk class</u> supercarrier, commissioned <u>27 October</u> <u>1961</u> through <u>August 7</u>, <u>2003</u>.
- Courageous (UK): 22,500 ton aircraft carrier, sunk September 17, 1939.
- <u>Coral Sea</u> (USA): 45,000 ton <u>Midway class</u> fleet carrier, commissioned <u>1 October 1947</u> through <u>26 April 1990</u>.
- <u>Cowpens</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>28 May 1943</u> through <u>13 January 1947</u>.

### [edit]

# D

- Dasher (UK): 8200 ton aircraft carrier, sunk March 27, 1943
- <u>Dedalo</u> (Spain, 1918): (ex-British merchantman *Neuenfels* converted to seaplane carrier, sold to Spain <u>22 October 1918</u>) - Sunk <u>18 July 1937</u>
- <u>Dédalo</u> (Spain, 1967): 11,000 ton <u>Independence class</u> light carrier, former <u>USS Cabot</u>, served from <u>1967</u> through <u>August 1989</u>.
- <u>Dixmude</u> (France) (<u>1940</u>)
- <u>Dwight D. Eisenhower</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned 18 October 1977.

### <u>edit</u>

### Ε

- <u>Eagle</u> (UK): 22,600 ton aircraft carrier, sunk August 11, 1942
- <u>Enterprise</u> (USA): 25,100 ton <u>Yorktown class</u> fleet carrier, commissioned <u>12 May 1938</u> through <u>17 February 1947</u> then sold for scrap.

- <u>Enterprise</u> (USA): 85,600 ton unique nuclear-powered supercarrier in active service, commissioned <u>25 November 1961</u>. First nuclear-powered aircraft carrier in service.
- <u>Essex</u> (USA): 27,100 ton <u>Essex class</u> aircraft carrier. Commissioned <u>31 December</u> <u>1942</u> through 30 June 1969.
- Europa (Italy): (1895) (merchantman converted to seaplane carrier) stricken 1920

### <u>edit</u>

#### F

- FS Foch (France) (1959) Sold to Brazil 2001 and renamed São Paulo
- <u>Forrestal</u> (USA): 81,000 ton <u>Forrestal class</u> supercarrier, commissioned <u>1 October 1955</u> through <u>11 September 1993</u>.
- Foudre (France): (1895) (seaplane carrier) stricken December 1, 1921
- <u>Franklin</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>31 January</u> <u>1944</u> through 17 February 1947.
- <u>Franklin D. Roosevelt</u> (USA): 45,000 ton <u>Midway class</u> fleet carrier, commissioned <u>27 October</u> 1945 through 30 September 1977.
- Furious (UK): 14,000 ton aircraft carrier

### edit

### G

- George H. W. Bush (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier under construction, laid down 6 December 2006.
- <u>George Washington</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned <u>4 July</u> <u>1992</u>.
- Georges Pompidou (France): (tentative name) modified version of UK CVF design
- Giuseppe Garibaldi (Italy): (1983) Fleet flagship
- Giuseppe Miraglia (Italy): (1923) (seaplane carrier) BU 1950
- Glorious (UK): 22,500 ton aircraft carrier, sunk June 8, 1940
- <u>Graf Zeppelin</u> (Germany): (<u>1938</u>) (not completed) Captured by the USSR <u>August 1947</u> but not used as carrier, sank 1947

# [edit]

### Н

- <u>Hancock</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>15 April 1944</u> through <u>30 January 1976</u>.
- <u>Harry S. Truman</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned 25 July 1998.
- Hermes (UK): 10,850 ton aircraft carrier, sunk April 9, 1942
- Hiyo (Japan)
- *Hiryu* (Japan)
- Hornet CV-8 (USA): 25,600 ton <u>Yorktown class</u> fleet carrier, commissioned <u>20 October 1941</u> and sunk <u>27 October 1942</u>.

- <u>Hornet CV-12</u> (USA): 27,100 ton <u>Hornet class</u> fleet carrier, commissioned <u>29 November 1943</u> through <u>26 June 1970</u>.
- <u>Hosho</u> (Japan)

# <u>edit</u>

I

- Illustrious (UK): 23,000 ton Illustrious class aircraft carrier
- <u>Independence</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>14 January</u> <u>1943</u> through <u>28 August 1946</u>.
- <u>Independence</u> (USA): 81,100 ton <u>Forrestal class</u> supercarrier, commissioned <u>10 January 1959</u> through <u>30 September 1998</u>.
- <u>Independencia</u> (Argentina): 18,300 ton <u>Colossus class</u> aircraft carrier. Purchased as <u>HMS</u>
   <u>Warrior</u> from the United Kingdom in <u>1958</u> and decommissioned <u>1970</u>, broken up.
- <u>Intrepid</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>16 August 1943</u> through <u>15</u>
   March 1974.
- <u>Iwo Jima</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, construction cancelled <u>12 August</u> <u>1945</u> and scrapped.

### edit

J

- Joffre (France) (-) (not completed)
- <u>John C. Stennis</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned 9 <u>December 1995</u>.
- <u>John F. Kennedy</u> (USA): 75,000 ton modified <u>Kitty Hawk class</u> supercarrier in active service, commissioned <u>7 September 1968</u>.
- <u>Junyo</u> (Japan)

### edit

Κ

- <u>Kaga</u> (Japan)
- Kaiyo (Japan)
- Hr.Ms. Karel Doorman (Netherlands): (ex-British HMS Nairana, transferred in 1946) Returned to Royal Navy for disposal in 1948 and replaced by HMS Venerable
- Katsuragi (Japan)
- <u>Kearsarge</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>2 March</u> <u>1946</u> through 13 February 1970.
- Kiev (USSR): (1972) BU 2000 India
- <u>Kitty Hawk</u> (USA): 60,000 ton <u>Kitty Hawk class</u> supercarrier in active service, commissioned <u>21</u>
   April 1961.
- Kumano Maru (Japan)

#### [edit]

#### ı

- <u>La Fayette</u> (France): 11,000 ton <u>Independence class</u> light carrier, former USS <u>Langley</u>, serving from 1951 through 1963.
- <u>Lake Champlain</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>3 June</u> <u>1945</u> through <u>2 May</u> <u>1966</u>.
- <u>Langley</u> (USA): 11,500 ton light aircraft carrier and seaplane tender, commissioned from <u>20</u>
   <u>March</u> <u>1922</u> through <u>27 February</u> <u>1942</u> when sunk.
- <u>Langley</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>31 August 1943</u> through <u>11 February 1947</u>, later transferred to France as *La Fayette*.
- <u>Leningrad</u> (USSR)
- <u>Lexington</u> (USA): 33,000 ton <u>Lexington class</u> fleet carrier, commissioned from <u>14 December</u> <u>1927</u> through <u>8 May 1942</u> when sunk.
- <u>Lexington</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned from <u>17 February 1943</u> through <u>8 November 1991</u>.
- <u>Leyte</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>11 April 1946</u> through 15 May 1959.
- <u>Long Island</u> (USA): 13,500 ton <u>Long Island class</u> escort carrier, commissioned <u>2 June</u> <u>1941</u> through <u>26 March</u> <u>1946</u>.

### [edit]

### M

- Magnificent (Canada): (1944) Returned to Britain 14 June 1957, BU 1960s
- <u>Melbourne</u> (Australia): (1945, ex-British Majestic) Retired <u>1982</u>, sold to China <u>1985</u>, used for testing
- <u>Midway</u> (USA): 59,900 ton <u>Midway class</u> aircraft carrier, commissioned <u>10 September</u> <u>1945</u> through <u>11 April</u> <u>1992</u>, now a museum ship.
- <u>Minas Gerais</u> (Brazil): (ex-British HMS Vengeance, purchased <u>13 December</u> <u>1956</u>) -Decommissioned <u>2001</u>
- <u>Minsk</u> (USSR): (1975) Towed to <u>People's Republic of China</u> 1998 for use as casino
- <u>Monterey</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>17 June 1943</u> through <u>16 January 1956</u>.
- Moskva (USSR)

### [edit]

### Ν

- HMCS Nabob (Canada): (1943) BU in Taiwan around 1977
- Nairana (UK): 11,420 ton aircraft carrier
- <u>Nigitsu Maru</u> (Japan)
- <u>Nimitz</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned 3 May 1975.
- Nord (1898) (merchantman converted to seaplane carrier) fate unknown
- <u>Novorossysk</u> (USSR): (<u>1978</u>) BU <u>1997</u> South Korea

### [edit]

### 0

- Onuyo (Japan): 17,830 ton aircraft carrier
- Oriskany (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>25 September 1950</u> through 30 September 1975.

### [edit]

#### Ρ

- Painleve (France) (-) (not completed)
- Pas-de-Calais (1898) (merchantman converted to seaplane carrier) fate unknown
- Peter Strasser (Germany): (planned launch in 1940, not completed) BU 1940
- <u>Philippine Sea</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>11 May 1946</u> through <u>28 December 1958</u>.
- <u>Powerful</u> (UK): 16,000 ton aircraft carrier, not completed during World War II and sold to Canada in the 1950s as the HMCS *Bonaventure*.
- <u>Princeton</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>25 February</u> 1943 and sunk 24 October 1944.
- <u>Princeton</u> (USA): 27,100 ton <u>Ticonderoga class</u> aircraft carrier, commissioned <u>18 November</u> <u>1945</u> through <u>30 January</u> <u>1970</u>.
- <u>Principe de Asturias</u> (Spain): 13,400 ton unique <u>STOL</u> carrier in active service, commissioned 30 May 1988.
- HMCS <u>Puncher</u> (Canada): (1943) BU in Taiwan <u>1970s</u>

### <u>edit</u>

### R

- <u>Randolph</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>9 October 1944</u> through <u>13 February 1969</u>.
- <u>Ranger</u> (USA): 14,500 ton aircraft carrier, commissioned <u>4 June</u> <u>1934</u> through <u>18 October</u> <u>1946</u>, sold for scrap.
- <u>Ranger</u> (USA): 81,100 ton <u>Forrestal class</u> supercarrier, commissioned <u>10 August 1957</u> through <u>10 July 1993</u>.
- <u>Reprisal</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, laid down <u>1 July 1944</u> but cancelled <u>12 August 1945</u>.
- <u>Ronald Reagan</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered aircraft carrier in active service, commissioned <u>12 July 2003</u>.
- Rouen (1912) (merchantman converted to seaplane carrier) captured by Germany 1940s
- Ruler class (UK): 11,420 ton aircraft carrier class of 24
- Ryuho (Japan)
- Ryujo (Japan)

#### <u>edit</u>

S

- <u>Saipan</u> (USA): 14,500 ton <u>Saipan class</u> light carrier, commissioned <u>14 July 1946</u> through <u>8 April 1965</u>, when renamed USS *Arlington* (AGMR-2).
- <u>San Jacinto</u> (USA): 11,000 ton <u>Independence class</u> light carrier, commissioned <u>15 November</u> <u>1943</u> through <u>1 March</u> <u>1947</u>.
- <u>São Paulo</u> (Brazil): (ex-French <u>FS Foch</u>, purchased <u>2001</u>
- <u>Saratoga</u> (USA): 33,000 ton <u>Lexington class</u> fleet carrier, commissioned <u>16 November 1927</u> through <u>25 July 1946</u> when sunk as a target.
- <u>Saratoga</u> (USA): 81,000 ton <u>Forrestal class</u> supercarrier, commissioned <u>14 April 1946</u> through <u>20 August 1994</u>.
- <u>Shangri-La</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>15 September</u> <u>1944</u> through <u>30 July</u> <u>1971</u>.
- Shimane Maru (Japan)
- Shinano (Japan)
- Shinyo (Japan)
- Shoho (Japan)
- Shokaku (Japan)
- Soryu (Japan)
- <u>Sparviero</u> (Italy): (<u>1927</u>) (converted liner Augustus, not completed as carrier) Sunk <u>5 October</u> 1944
- HMAS Sydney (Australia): (1944, ex-British HMS Terrible) Sold 30 October 1975, BU

### <u>edit</u>

### T

- <u>Taiho</u> (Japan)
- Taiyo (Japan)
- <u>Tarawa</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>8 December 1945</u> through <u>13 May 1960</u>.
- <u>Theodore Roosevelt</u> (USA): 104,000 ton <u>Nimitz class</u> nuclear-powered supercarrier in active service, commissioned <u>25 October 1986</u>.
- Tbilisi (USSR): Original name for the Admiral Kuznetsov.
- <u>Ticonderoga</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier. Commissioned <u>8 May 1944</u> through <u>1 September 1973</u>.

# <u>edit</u>

### U

- <u>Ulyanovsk</u> (USSR) (-) (not completed) BU 1992. A sister ship was probably planned.
- <u>United States</u> (USA): 68,000 ton unique super-heavy aircraft carrier, laid down <u>18 April 1949</u>, but cancelled <u>23 April 1949</u>.
- <u>Unryu</u> (Japan)
- <u>Unyo</u> (Japan)

### [edit]

٧

- <u>Valley Forge</u> (USA): 27,100 ton <u>Ticonderoga class</u> fleet carrier, commissioned <u>3 November</u> <u>1946</u> through <u>16 January</u> <u>1970</u>.
- <u>Varyag</u> (Russia/China) (1988) (formerly named *Riga*) later owned by Ukraine and sold to the People's Republic of China for use as entertainment complex and transferred there in 2002.
- <u>Veinticinco de Mayo</u> (Argentina): <u>Colossus class</u> aircraft carrier. Aquired from the Netherlands (as <u>HNLMS Karel Doorman</u> in 1968, decommissioned <u>1997</u>, towed to <u>Alang</u>, <u>India</u>, for BU January <u>1999</u>.
- <u>Hr.Ms. Karel Doorman</u> (Netherlands) (ex-British HMS *Venerable*, purchased 1948) Sold to Argentina 1968 and renamed *Veinticinco de Mayo*, BU
- HMAS Vengeance (Australia): (1944, ex- British HMS Vengeance) Returned to Britain 13
   August 1955, sold to Brazil 13 December 1956 as Minas Gerais
- INS Vikramaditya (India): (ex-Russian Admiral Gorshkov) To enter service in 2008
- INS Vikrant (India): (1945, ex-British HMS Hercules, purchased January 1957) Decommissioned 31 January 1997. To be preserved at a museum at Mumbai
- Vindex (UK): 11,420 ton aircraft carrier
- INS Viraat (India): (1953, ex-British HMS Hermes (R12), purchased 19 April 1986)

# [edit]

### W

- HMCS Warrior (Canada): (1944) Returned to Britain 1948, sold to Argentina 1958 and renamed Independencia, BU 1971
- <u>Wasp</u> (USA): 14,700 ton unique aircraft carrier, commissioned <u>25 May</u> <u>1940</u> through <u>15</u>
   September 1942 when sunk.
- <u>Wasp</u> (USA): 27,100 ton <u>Essex class</u> fleet carrier, commissioned <u>24 November 1943</u> through <u>1</u> July 1972.
- Wright (USA): 14,500 ton <u>Saipan class</u> light carrier, commissioned <u>9 February 1947</u> through <u>27 May 1970</u>.

### [edit]

# Υ

- Yamashiro Maru (Japan)
- Yorktown (CV-5) (USA): 19,900 ton Yorktown class aircraft carrier, commissioned 30 September 1937 through 7 June 1942 when sunk.
- Yorktown (CV-10) (USA): 27,500 ton <u>Essex class</u> aircraft carrier, commissioned <u>15 April 1943</u> through <u>27 June 1970</u>, became a museum ship.

### [edit]

# Ζ

- Zuiho (Japan)
- Zuikaku (Japan)

### [edit]