

# DOWNLOAD PDF PARTS OF THE SHIP AND ITS DEFINITION WITH PICTURE

## Chapter 1 : ships, boats, free pictures

*E - Ship Terms & Definitions p. 3 © www.nxgvision.com Between Decks The space between any two decks. Bevel The angle between the flanges of a frame or other member.*

For example, a truck engine would be different as compared to the engine of a regular car due to the amount of power required. Today, many vehicles make use of the internal combustion engine, however with slight variations according to vehicle types, having some added features or components. Developed in the 19th century, this type of engine still remains a popular choice and it continues to benefit from the technological advances in engineering. With advances come several components which all work together to allow the engine to perform the required tasks. In order to be able to understand how an engine works, it is important to understand what the different engine parts are. Many of the automotive engines used in the industry today are four-stroke internal combustion engine that use either gasoline or diesel as a fuel. Being the first phase, fuel and air are taken into the combustion chamber, earning this phase the name; intake phase. A piston is then used to compress the fuel in the next phase. Thereafter a spark is used to ignite the fuel to cause a controlled explosion. This explosion provides the engine with the energy required to drive the car forward. The ignition of the fuel varies in diesel powered engines and gasoline powered engines. Gasoline powered engines make use of a spark to ignite the fuel. The spark is generated through electrical components. On the other hand, the fuel in a diesel engine is ignited through compression and does not require an extra electrical component. After the ignition phase, the final part in the four-stroke phase is the exhaust phase. During which, the unused fuel and carbon emissions are let out of the combustion chamber to allow new fuel and gas to enter the space, allowing the process to start over again. The core component of an engine is the cylinder that houses the pistons. In a regular car engine, it can have anywhere from four to eight cylinders. The arrangement of the cylinder can pose different advantages and disadvantages. Depending on the size and type of vehicle, manufacturers opt for differing number of cylinders to match the requirements of the vehicle. The movements of the pistons in the cylinders provide the engine with power for the vehicle to function. Components of an Engine Spark Plug As mentioned earlier, gasoline engines make use of a spark to ignite the fuel and cause a controlled explosion in the engine. The spark plug in these engines supplies the spark that is required to ignite the air and fuel mixture. Valves These engine parts allow for fuel and air to enter the combustion chamber and later let the exhaust out. They remain sealed during the combustion process and only open when required. Piston rings are located between the piston and the cylinder in which the piston is located in. They provide a sealing edge between the exterior of the piston and the interior of the cylinder. The purpose of these engine parts is to seal the space and prevent the fuel and air mixture on one side of the piston from leaking into the sump during the combustion or compression process and also prevent the oil in the sump from leaking into the combustion area as it would get burnt and lost, deterring the movement of the piston. Connecting rod and Crankshaft The connecting rod connects the piston to the crankshaft. As the piston moves up and down due to the controlled explosions, it causes the connecting rod to move. This then cause the crankshaft to move as well as it is connected to the connecting rod, in a circular motion due to the configuration of the piston, connecting rod and crankshaft. Surrounding the crankshaft, the sump contains some amount of oil.

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## Chapter 2 : Boating Terminology: Parts of a Boat BOATsmart! Knowledgebase

*Nautical Terms. Ahoy, mateys! This be a fair and true listing of words having to do with ships and sailing, of them in all. These terms come mainly from the great age of sailing ships, the 16th to 18th centuries, and almost all hail from the two great seafaring peoples of the day, those being the brave English and the most hated Dutch.*

Bring fact-checked results to the top of your browser search. Types of ships The great majority of ships that are neither military vessels nor yachts can be divided into several broad categories: Each category can be subdivided, with the first category containing by far the greatest number of subdivisions. Service vessels The service ships are mostly tugs or towing vessels whose principal function is to provide propulsive power to other vessels. Most of them serve in harbours and inland waters, and, because the only significant weight they need carry is a propulsion plant and a limited amount of fuel, they are small in size. The towing of massive drilling rigs for the petroleum industry and an occasional ocean salvage operation e. Tugboat guiding a container ship. It is intended to encompass classifications such as icebreakers and research vessels, many of which are owned by government. Neither type need be of large size, since no cargo is to be carried. However, icebreakers are usually wide in order to make a wide swath through ice, and they have high propulsive power in order to overcome the resistance of the ice layer. Icebreakers also are characterized by strongly sloping bow profiles, especially near the waterline, so that they can wedge their way up onto thick ice and crack it from the static weight placed upon it. To protect the hull against damage, the waterline of the ship must be reinforced by layers of plating and supported by heavy stiffeners. The Shirase, an icebreaker and observation ship of the Japanese Maritime Self-Defense Force, plowing through ice in the Antarctic, Propellers are usually given protection by a hull geometry that tends to divert ice from them, and they are often built with individually replaceable blades to minimize the cost of repairing damage. Electric transmission of power between engines and propellers is also common practice, since it allows precise control and an easy diversion of power to another propeller from one that may be jammed by chunks of broken ice. Research vessels are often distinguished externally by cranes and winches for handling nets and small underwater vehicles. Often they are fitted with bow and stern side thrusters in order to enable them to remain in a fixed position relative to the Earth in spite of unfavourable winds and currents. Internally, research vessels are usually characterized by laboratory and living spaces for the research personnel. Industrial ships Industrial ships are those whose function is to carry out an industrial process at sea. A fishing-fleet mother ship that processes fish into fillets, canned fish, or fish meal is an example. Some floating oil drilling or production rigs are built in ship form. In addition, some hazardous industrial wastes are incinerated far at sea on ships fitted with the necessary incinerators and supporting equipment. In many cases, industrial ships can be recognized by the structures necessary for their function. For example, incinerator ships are readily identified by their incinerators and discharge stacks. Passenger carriers Cruise ships Cruise ships are descended from the transatlantic ocean liners, which, since the mid 20th century, have found their services preempted by jet aircraft. However, most cruise ships now in service were built after specifically for the cruise trade. Since most of them are designed for large numbers of passengers perhaps several thousand, they are characterized by high superstructures of many decks, and, since their principal routes lie in warm seas, they are typically painted white all over. Closer examination usually reveals a large number of motor launches carried aboard for the ferrying ashore of passengers. Passenger cruise ship in the Panama Canal. Thus, isolation of machinery noise and vibration is of high importance. Minimizing the rolling and pitching motions of the hull is even more important—no extreme of luxury can offset a simple case of seasickness. Since cruising is a low-speed activity, propulsive power is usually much lower than that found in the old ocean liners. On the other hand, electrical power is usually of much greater magnitude, mainly because of demands by air-conditioning plants in tropical waters. This electrical plant supplies all shipboard power needs, including propulsion. Since all power flows from a single source, propulsion power can be readily diverted to meet increased air-conditioning loads while the ship

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is in port. Ferries Ferries are vessels of any size that carry passengers and in many cases their vehicles on fixed routes over short cross-water passages. The building of massive bridges and tunnels has eliminated many ferry services, but they are still justified where waters are too formidable for fixed crossings. Vessels vary greatly in size and in quality of accommodations. Some on longer runs offer overnight cabins and even come close to equaling the accommodation standards of cruise ships. The typical vessel has propellers, rudders, control stations, and loading ramps at both ends. It is usually wide enough to handle four vehicle lanes abreast and may accommodate up to four-wheeled vehicles. Special docks, fitted with adjustable ramps to cope with changes in water levels and shaped to fit the ends of the ferry, are always part of a ferry system of this type. Ferry crossing Puget Sound, Seattle. This type is typically found on short runs in protected waters where the carriage of vehicles is not required. Catamaran hulls can be narrow and knifelike in shape, allowing them to operate at high speed-to-length ratios without excessive propulsive power. The engines are usually high-speed diesels, although turbine engines have been fitted in a few instances. Cargo carriers Cargo ships can be distinguished by the type of cargo they carry, especially since the means of handling the cargo is often highly visible. As noted below see Cargo handling , the trend is toward specialization in this regard. One consequence is a proliferation in types of cargo vessel. The present discussion is limited to a few types that are represented by large numbers of ships and are distinctive in appearance. Cargo ship in the Suez Canal near Ismailia, Egypt. When fully loaded they are also readily distinguishable by scant freeboard—a condition that is permissible because the upper deck is not weakened by hatches. In essence, the tanker is a floating group of tanks contained in a ship-shaped hull, propelled by an isolated machinery plant at the stern. Each tank is substantially identical to the next throughout the length of the ship. The tanks are fitted with heating coils to facilitate pumping in cold weather. Within the tanks are the main, or high-suction, pipes, running several feet from the bottom to avoid sludge. Below them, low-suction piping, or stripping lines, removes the lowest level of liquid in the tank. Tanks are filled either through open trunks leading from the weather deck or from the suction lines with the pumps reversed. Because tankers, except for military-supply types, usually move a cargo from the source to a refinery or other terminal with few maneuvers en route, the machinery plant is called on only to produce at a steady rate the cruise power for the ship; consequently, considerable use of automatic controls is possible, thus reducing the size of the crew to a minimum. In view of the simplicity of inner arrangement, the tanker lends itself to mass production perhaps more than any other ship type. Because of the limited crew requirements and the low cost per ton for initial building and outfitting, the tanker has led the way in the rapid expansion in the size of ships. The decline of crude oil prices after the petroleum crisis of led in turn to a decline in preferred tanker size, but at that time a few ships had reached 1, feet metres in length, 80 feet in loaded draft, and a deadweight of , tons. Along with the great increase in numbers and size of tankers have come specialized uses of tankers for products other than oil. A major user is the natural gas industry. The cost of these ships is rather high, because steel cannot be used for the containers. The cold liquid, in contact with steel, would make that material as brittle as glass. Aluminum is therefore used, sometimes backed by balsa wood, backed in turn by steel. A special nickel-steel alloy known as Invar also has been used in this application. Container ships Like tankers, container ships are characterized by the absence of cargo handling gear, in their case reflecting the usual practice of locating the container-handling cranes at shore terminals rather than aboard ship. Unlike the tanker, container ships require large hatches in the deck for stowing the cargo, which consists of standardized containers usually either 20 or 40 feet in length. Belowdecks, the ship is equipped with a cellular grid of compartments opening to the weather deck; these are designed to receive the containers and hold them in place until unloading is achieved at the port of destination. The ship is filled to the deck level with containers, the hatches are closed, and one or two layers of containers, depending upon the size and stability of the ship, are loaded on the hatch covers on deck. Container ship in the port of Seattle, Wash. An additional economy is the low cost of the crew of the ship while it is in port awaiting loading or unloading. Further, because each ship can make more trips than before, container fleets require fewer vessels. There is also less pilferage and, hence, lower insurance rates and, finally, the assurance to the shipper that the

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shipment will not require any further handling until it arrives at its destination. Shipping containers being unloaded at port facilities in Vancouver, British Columbia, Canada. Further, a rather substantial capital investment is needed in port facilities, such as special berths, weight-handling equipment, storage areas, and links to land transportation, all of which must be made by the ports that receive or ship via container ship if its full potential savings are to be realized. Much use is made of small, compact, diesel power plants to provide more space for containers. Special equipment includes mooring winches to ensure accurate positioning of the ship under cranes in port and special tanks to list tip and trim level the ship to permit a symmetrical loading or unloading without excessive list or trim.

**Barge-carrying ships** An extension of the container ship concept is the barge-carrying ship. In this concept, the container is itself a floating vessel, usually about 60 feet long by about 30 feet wide, which is loaded aboard the ship in one of two ways: To ensure stability, fixed ballast is usually included in these ships, along with water ballast to adjust load and stability. The engineering plants are commonly twin engines of compact variety, such as geared diesel, and they are arranged so that the engine spaces are at either side of the ship, allowing valuable free space between them for vehicle passage.

**Dry-bulk ships** Designed for the carriage of ore, coal, grain, and the like, dry-bulk ships bear a superficial likeness to container ships since they often have no cargo handling gear and, unlike the tanker, have large cargo hatches. The absence of containers on deck is a decisive indicator that a vessel is a dry-bulk ship, but an observer may be deceived by the occasional sight of a dry-bulk ship carrying containers and other nonbulk cargo on deck. An incontrovertible indicator is the self-unloading gear, usually a large horizontal boom of open trusswork, carried by some bulk ships. On the Great Lakes of North America this gear is a near-universal feature of ships built since

**Army Corps of Engineers General cargo ship** The once-ubiquitous general cargo ship continues to be built, though in modest numbers. Those built in the last third of the 20th century are usually fitted with deck cranes, which give them an appearance distinct from the more-specialized ship types.

**Cargo ship in the harbour of Mumbai, India.** A freight rate must be obtained so that all expenses are covered, with a remainder sufficient for the returns on investment. In analysis of the economic merit of a shipping project, this rate is often referred to as the required freight rate. Actual freight rates are set by market conditions and inevitably fluctuate during the life of a ship.

**The tramp trade** The closest approximation to free-market freight rates is found in the case of the so-called tramp service offered by ships that are able to carry a variety of cargoes between a variety of ports. In many instances the services of these ships are matched with cargoes by brokers who meet face-to-face on a trading floor in an environment analogous to a stock exchange or a commodities exchange. Elements of such exchanges are present, even down to speculation on future changes in rates. For example, in times of low freight rates a broker representing cargo interests may charter a ship for a future date, all the while having no cargo in prospect but expecting to resell the contract when rates have risen. Other exchanges, especially for special cargoes, are in operation.

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## Chapter 3 : Ship - Types of ships | [www.nxgvision.com](http://www.nxgvision.com)

*The hull is the most visible part of a ship, because it is the body of the watercraft. The hull makes the ship buoyant while providing shelter to those on board, and is divided by bulkheads and decks, depending on its size.*

In practice, the celestial navigator will consult tables to estimate the azimuth and altitude of each star line he will attempt, and preset the sextant as an aid to identification of the star or planet. Then he will measure the exact altitude of the body and use that figure to calculate a line on the chart. Because of the enormous costs involved, the race is held approximately every three years. Amidships - the middle of the boat; either along the longitudinal centerline, or halfway from bow to stern, but not necessarily both. See General Shipboard Directions illustration. Amplitude - a measurement of the arc between true East or West and the plane of a selected star or planet at a precise moment in time Analog - a readout of an instrument which is displayed with a dial and pointer rather than numerically Anchor - an object designed to grip the bed lake bed, seabed, riverbed or ground, under a body of water, to hold the boat in a selected area Formerly the largest and strongest anchor was the sheet anchor hence, best hope anchor or last refuge anchor , called also waist anchor. Now the bower and the sheet anchor are usually alike. Then came the best bower and the small bower so called from being carried on the bow of the vessel. The stream anchor is about one fourth the weight of the bower anchor. Kedges or kedge anchors are light anchors used in warping and kedging. Parts of an anchor: The ring is secured to the top of the shank with a riveted pin. Shank - The long center part of the anchor running between the ring and the crown. Crown - The lower section of the anchor to which the shank is secured. The shank is fitted to the crown with on some anchors a pivot or ball-and-socket joint that allows a movement from 30o to 45o either way. Stock - a crossmember, spar, or rod, that rolls the anchor into an attitude that enables the flukes to dig into the sea bed. Most newer anchors are stockless. Arms - The parts that extend from each side of the crown. Throat - The inner part of an arm where it joins the shank. Fluke or Palm - The broad shield part of the anchor that extends upward from the arms. Blade - That part of the arm extending outward below the fluke. Bill or Pea - Tip of the palm or fluke. Anchor Angel - a weight or small anchor suspended from the anchor rode to help keep the pull on the anchor as horizontal as possible to prevent dragging in foul weather. Also called a kelleet or sentinel. The anchor buoy is said to be watching if it is floating on the surface. An anchor buoy can be a valuable asset in relocating an anchor that has been lost while weighing anchor or if the anchor has been slipped in an emergency. Anchor Chain - chain attached to the anchor. The chain acts partially as a weight to keep the anchor lying next to the ground so that it can hold better. Anchor Chocks - deck fittings for storing the anchor Anchor Detail - a group of men who handle ground tackle when the ship is anchoring or getting underway Anchor Ice - ice of any kind that is aground in the sea Anchor Light - a white light displayed by a boat or ship at anchor. Two such lights are displayed by a ship over feet 46 m in length, Also called a riding light. Anchor Pocket - a recess in the bow for storing an anchor; also called a billboard Anchor Watch - making sure the anchor is holding and that the boat is not drifting. Important during rough weather and at night. Anemometer - an instrument for measuring the speed of the wind Aneroid Barometer - an instrument that determines atmospheric pressure by the effect of such pressure on a thin-metal cylinder from which the air has been partly exhausted Angle of Attack - the angle between the chord of a sail and the relative wind or between the chord of a hydrofoil such as a keel or rudder and a vector line representing the true path through the water, taking the amount of sideslip or leeway into account. The term applies to a sail only when the relative wind is forward of the beam. An abrupt change in sea temperature takes place, and with it a change in sea and bird life. Because of the amount of land mass near the pole in the northern hemisphere, there is no corresponding convergence there. Antarctica, on average, is the coldest, driest, and windiest continent, and has the highest average elevation of all the continents. Antarctica is considered a desert, with annual precipitation of only mm 8 inches along the coast and far less inland, yet it has huge amounts of ice due to the millions of years of accumulation. There are four basic types:

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Most usually contain copper biocide or some other repellent. Copper itself is under increasing pressure and is already banned in some areas because it can harm other marine life, too. Recent developments include "foul release" technologies in which non-stick coatings based on silicones or fluoropolymers are able to shed fouling at speeds above about 10 knots. Antitrades - the prevailing westerly winds of the middle latitudes. The winds to the north of the trade winds which blow in the opposite direction. Since the early square rigged ships could not sail to weather, they had to cross to the New World on the trades or tradewinds, and return by a more Northerly route in the antitrades. See illustration at Prevailing Winds of the World Anti-trip Chine - a flared out aft section of the side and bottom of a boat. The purpose is to prevent the hard chine of the boat catching a wake or small wave on a sharp turn. Apeak or Apeek - 1. You may hold your oars apeak, raise your gaff apeak or be apeak your anchor. Sometimes it is necessary to do this in order to let wave action break the anchor loose. Aport - on or toward the port side of a ship; as in: A properly mounted sundial indicates apparent time. The concept is employed when making navigation calculations. A sun sight at noon and a simple calculation can produce a very accurate line of longitude Apparent Wind - the direction and velocity of the wind relative to the speed and direction of the boat which is derived from the True Wind and Wind of Motion. This is the wind you feel on your face when on a moving sailboat. Apron - a timber fitted abaft the stem to re-enforce the stem and give a sufficient surface on which to land the forward ends of the planks Arc of Visibility - the portion of the horizon over which a lighted aid to navigation is visible from seaward Arctic Ocean - the northern polar ocean north of Alaska, Canada, Russia, Greenland, etc. Argos - a satellite-based system which collects, processes and disseminates environmental data from fixed and mobile transmitters and receivers worldwide. Argos is unique in its ability to geographically locate the source of the data anywhere on the Earth utilizing the Doppler effect. Argos was established in and since that time, it has provided data to environmental research and protection communities that, in many cases, was otherwise unobtainable. The system is fully proven and highly reliable. Many remote automatic weather stations report via Argos. Argos is a key component of many global research programs including: By uploading of data from pressure transducers attached to wild animals of the oceans, it has been possible to obtain a wealth of knowledge about their diving and foraging behavior. The system utilizes both ground and satellite-based resources to accomplish its mission. Argosy - an extremely large ship or fleet of ships, especially merchant ships. The crosspiece of an anchor from the crown to flukes Armada - a fleet of warships Arming - tallow or other sticky substance placed in the recess at the lower end of a sounding lead for obtaining a sample of the bottom Ash Can - World War II slang for a depth charge Ashore - On shore or beach; as in, "Send someone ashore to find fresh water. A tall and narrow sail is said to have a high aspect ratio. Astarboard - in or toward the direction of the right side of the ship when facing forward, as in: A predecessor to the sextant. Astronavigation - Celestial navigation. Determining your position by sightings of celestial bodies. Astronomical Almanac - a catalogue of tables showing the location of various celestial bodies at specific moments in time throughout the year; consulted by the navigator in preparation for taking sights of celestial bodies. Such tables were known as "The Ephemeris" since the 18th C. Also called the Nautical Almanac. Astronomical Twilight - See Twilight Atmospheric - interference in reception of radio communications caused by natural phenomena such as lightning or sunspots; as in: Atmospheric - interference in reception of radio communications caused by natural phenomena such as lightning or sunspots; as in: AIS information supplements marine radar, which continues to be the primary method of collision avoidance for water transport. Information provided by AIS equipment, such as unique identification, position, course, speed, bearing and distance of nearby vessels in a radar-like display format. AIS integrates a standardized VHF transceiver with a positioning system such as a LORAN-C or GPS receiver, with other electronic navigation sensors, such as a gyrocompass or rate of turn indicator Auto Pilot - an electrical automated steering mechanism used to steer a preset course based on the apparent wind. These are expensive and very susceptible to breakdown, but most handy when there is not enough wind to operate a windvane. Compare to Windvane on this page Auxiliary - 1. See Knot Backstaff - a navigation instrument used to measure the apparent height of a landmark whose actual height is known, such as the top of a

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lighthouse. Also has some similarities to the sextant, but cannot be used to take accurate observations of the nighttime stars. Backstay - a wire or line that runs from the top of the mast to the stern to support the mast and control mast tension, rake, and bend. Compare to Forestay, Jibstay, and Headstay Backstay Bridle - a line, near the bottom of the stay that holds the mast stationary from aft, that splits the stay in two and runs to near the corners of the transom in order to allow clearance for movement of the tiller. Back-winded - to have the wind change to the what has been the leeward side of the sail. Bad Tack - the direction of sail that pushes the lee side of the sail against the mast or sprit, thus deforming the sail and reducing its airflow significantly on lateen, lug, sprit sails, and others that have a yard that crosses forward beside the mast. On some lug rigged sails, the yard can be switched to the other side, but other rigs cannot. Baggywrinkle - a soft, smooth, plastic covering for cables that prevents sails from chafing as they slide against the cables Bail - 1. The boom bail reduces twist on the boom by allowing the sheet block to change angles as the boom moves from side to centerline to the opposite side of the vessel. Balanced Helm - a combination of sails and rudder and mast positioning that leaves the helm with no tendency to turn either to weather or lee. Compare to Lee Helm and Weather Helm Balanced Rudder - a rudder that has a small portion of the blade forward of the axis, so that it will turn with less effort Baldheaded Schooner - a schooner without topsails Ballantine - to flake the foresail halyards in a large coil, then three overlapping smaller coils within, then repeating. The system is used by schoonermen to keep the halyards ready to run free in the event the sail must be doused quickly. It is used to counter-balance the effort of the wind upon the masts, and give the ship a proper stability, that she may be enabled to carry sail without danger of capsizing. Inside ballast is within the hull or keel, either cast into it or stowed. Outside ballast is attached to the outside of the hull or keel. Ballast Keel - a heavy keel, usually cast of lead or iron, that lowers the hulls center of gravity and thus increases resistance to heeling. Bank - a large area of elevated sea floor that may pose a problem floating across it Bar - 1. They are mostly found at the entrances of great rivers or havens, and often render navigation extremely dangerous and may only be crossed at high tide, but have calmer waters on the shore side.

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## Chapter 4 : Ship Parts - Pirate Life - The Way of the Pirates

*Pirate Ship. Rigging - The system of ropes, wires and chains used to support and operate the masts, sails, booms and yards of a ship.; Mast - A large pole (spar) resin above the deck of a ship and supports sails and rigging.*

Rigging â€” The system of ropes, wires and chains used to support and operate the masts, sails, booms and yards of a ship. Mast â€” A large pole spar resin above the deck of a ship and supports sails and rigging. Foremast â€” The front mast on a ship or any other sailing vessel. Mainmast â€” The middle, primary mast on a ship or any other sailing vessel. Mizzenmast â€” The aftermost mast on a ship or any other sailing vessel. Sail - A large piece of material like cloth, set on mast and used to speed up sailing by being placed in the wind. Square sail â€” A rectangular sail attached on yard, hanging symmetrically across the mast. Fore-and-aft sail â€” A triangular sail set behind mast, attached to a gaff and boom, parallel with a keel. Lateen sail â€” A triangular sail, set on a long yard and sometimes supported with boom. Jib - A small fore-and-aft sail extending from the fore-topmast head to the jib-boom. Trysail - A small fore-and-aft sail used during the storm conditions and placed instead of the regular sail. Course sail - The largest and lowest square sail on a mast Spanker â€” A fore-and-aft sail on an aftermost mast, bent with a gaff and boom. Spar - A wooden or metal pole used for rigging such as mast, yard, gaff, boom, etc. Bowsprit â€” A pole which extends forward from the bow of a ship. Yardarm or Yard â€” A pole which horizontally crosses a mast. Gaff - A swinging pole used to extend the top of a fore-and-aft sail away from a mast and support it. Boom - A horizontal pole used to extend the foot of a fore-and-aft sail from a mast and support it. Stay - A heavy rope, cable or wire used as support for a mast or spar. Hull â€” A frame or body of any sailing vessel. Keel â€” The bottom of a hull, scratching from bow to stern. Rudder â€” A metal or wood plate mounted at the stern, used to maneuvers a ship. Bulkhead â€” A water-tight structure dividing a ship into compartments. Aft or aft â€” A rear section of the ship. Bow - The front part of a ship. Deck â€” A horizontal platform covering a hull from one side of a ship to the other. Poop â€” An enclosed structure, a rear part of a deck. Stern â€” The aftermost part of a ship. Forecastle -The part of upper deck at fore end of ship; the forward part of a ship with living quarters. Main deck - The highest part of a deck in some vessels. Berth -The sleeping and living quarters below main deck or built-in bed on a ship. Orlop -The lowest deck on a ship, used for covering storage. Bilge â€”The bottom of a ship, the transition between the bottom and the sides. Scuppers â€” The openings, spreading along edges of a deck and allow water to drain off into the sea.

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### Chapter 5 : Shipwreck | Definition of Shipwreck by Merriam-Webster

*Tallship in Sousse Harbour, Tunisia. Photo by Dennis Jarvis Find this Pin and more on Tall Ships by Tricia Fultz. Pirate ship in Sousse Harbour, Tunisia. Photo by Dennis Jarvis One year Guy took me onto the ship for my birthday dinner.*

Roman trireme mosaic from Carthage, Bardo Museum , Tunis. Replica of a ship, typical of the 10th-14th centuries in Islamic Iberia. The first navigators began to use animal skins or woven fabrics as sails. Affixed to the top of a pole set upright in a boat, these sails gave early ships range. Vessels were of many types; their construction is vividly described in the *Yukti Kalpa Taru*, an ancient Indian text on shipbuilding. This treatise gives a technical exposition on the techniques of shipbuilding. It sets forth minute details about the various types of ships, their sizes, and the materials from which they were built. The *Yukti Kalpa Taru* sums up in a condensed form all the available information. The *Yukti Kalpa Taru* gives sufficient information and dates to prove that, in ancient times, Indian shipbuilders had a good knowledge of the materials which were used in building ships. In addition to describing the qualities of the different types of wood and their suitability for shipbuilding, the *Yukti Kalpa Taru* gives an elaborate classification of ships based on their size. The oldest discovered sea faring hulled boat is the Late Bronze Age Uluburun shipwreck off the coast of Turkey, dating back to BC. Sternpost-mounted rudders started to appear on Chinese ship models starting in the 1st century AD. In the 1st century A. They could carry people and ton cargo. It has masts and able to sail against the wind due to the usage of tanja sails. These ships reaching as far as Ghana. In China, early versions of the magnetic compass were being developed and used in navigation between and Ferdinand Magellan led the first expedition that circumnavigated the globe in 1492. Until the Renaissance , navigational technology remained comparatively primitive. This absence of technology did not prevent some civilizations from becoming sea powers. Examples include the maritime republics of Genoa and Venice , Hanseatic League , and the Byzantine navy. The Vikings used their knarrs to explore North America , trade in the Baltic Sea and plunder many of the coastal regions of Western Europe. Towards the end of the 14th century, ships like the carrack began to develop towers on the bow and stern. This increased freeboard allowed another innovation: A Japanese atakebune from the 16th century In the 16th century, the use of freeboard and freeing ports became widespread on galleons. At this time, ships were developing in Asia in much the same way as Europe. Japan used defensive naval techniques in the Mongol invasions of Japan in 1274 and 1281. It is likely that the Mongols of the time took advantage of both European and Asian shipbuilding techniques. In Japan, during the Sengoku era from the fifteenth to 17th century, the great struggle for feudal supremacy was fought, in part, by coastal fleets of several hundred boats, including the atakebune. The "turtle ship", as it was called is recognized as the first armored ship in the world. During the Age of the Ajuran , the Somali sultanates and republics of Merca , Mogadishu , Barawa , Hobyo and their respective ports flourished, enjoying a lucrative foreign commerce with ships sailing to and coming from Arabia , India , Venetia , [34] Persia , Egypt , Portugal and as far away as China. In the 16th century, Duarte Barbosa noted that many ships from the Kingdom of Cambaya in what is modern-day India sailed to Mogadishu with cloth and spices , for which they in return received gold , wax and ivory. Barbosa also highlighted the abundance of meat , wheat , barley , horses , and fruit on the coastal markets, which generated enormous wealth for the merchants. His fleet carried 30, men aboard 70 vessels, with the goal of bringing glory to the Chinese emperor. At the same time Zheng He made his expedition, Portuguese explorer Gil Eanes sailed on a square-rigged caravel beyond Cape Bojador the end of what was then considered the known world opening the route to deep sea exploration, continental sea communication technology and the spherical earth principle. The carrack and then the caravel were developed in Portugal. After Columbus, European exploration rapidly accelerated, and many new trade routes were established. These explorations in the Atlantic and Indian Oceans were soon followed by France , England and the Netherlands , who explored the Portuguese and Spanish trade routes into the Pacific Ocean , reaching Australia in 1770 and New Zealand in 1769. Specialization and modernization[ edit ].

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## Chapter 6 : Hull | ship part | [www.nxgvision.com](http://www.nxgvision.com)

*the part of a ship or boat that floats on the water. The front part is called the bow and the back part is called the stern. Free thesaurus definition of parts of.*

The right side gives the ship as seen from ahead, the left side from astern. Water lines, buttock and bow lines, diagonal lines, etc. There are two general classes of boilers. Boiler casing A wall protecting the different deck spaces from the heat of the boiler room. Boiler chocks Stay braces which prevent fore and aft movement of boilers. Boiler foundation The structure upon which the boiler is secured. It generally consists of girders built up from plates and shapes. In a cylindrical boiler the athwartship girders are often called saddles. Boiler room A compartment in the middle or after section of a vessel where the boilers are placed. Bollard The static pulling force of a tugboat measured in pounds. A plate foe support like a pillow or cushion. Bonded warehouse A warehouse authorized by customs authorities for storage of goods on which payment of duties is deferred until the goods are removed. Booby hatch The cover of a scuttle-way or small hatchway, such as that which leads to the forecabin or fore peak of a vessel. Boom A term applied to a spar used in handling cargo, or as the lower piece of a fore-and-aft sail. Boom cradle A rest for a cargo-boom when lowered for securing for sea. Boom rest A support for a boom when the boom is not in use. Boom step A socket for end of boom. Boom table An outrigger attached to the mast, or a structure built up around a mast from the deck, to support the heel bearings for booms. Boom tables are necessary to provide working clearances when a number of booms are installed on one mast. Boot-topping Durable paint coating applied to a hull between the light and loaded waterlines. Boot-topping Special resistant paint or paints used to coat that portion of a vessel between light and load lines. Also the area to which this paint is applied. Bort flange A protruding flange above a port to keep drip from entering. Bosom The inside of an angle bar. Bosom barb One angle fitted inside another. Bosom plate A plate bar or angle fitted to an angle bar to connect the ends of two angles. Boss The part of the propeller to which blades are attached. Also the aperture in the stern frame where propeller shaft enters. Boss frame A frame bent around to fit the boss in way of the stern tube or shaft. Boss plate The plate fitted around the boss of a propeller post or around the curved frames in way of stern tubes. Bossing Hydrodynamically faired outboard portion of hull plating surrounding and supporting propeller shafting. In a single-screw vessel the bossing is integral to a centreline skeg. Bottom plating That part of the shell plating which is below the water line. Bottom, outer A term applied to the bottom shell plating in a double bottom ship. Bounding angle A steel angle used for reinforcement at the junction of two steel plates. Bounding bar A bar connecting the edges of a bulkhead to tank top, shell, decks, or another bulkhead. Bow The fore end of a ship. Similar curves in aft part of hull are buttock lines. Bow thruster A propulsor installed near the bow to provide a transverse thrust component enhancing manoeuvrability. Bow thruster A spar extending forward from the stem. Boxed end The end of a barge which is squared for the full depth and width of the hull. Boxing the compass Calling names of the points of the compass in order.

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## Chapter 7 : Word List: Definitions of Nautical Terms and Ship Parts

*The Parts of a Ship National Park Service U.S. Department of the Interior Salem Maritime National Historic Site Salem, Massachusetts Anchor - A large hook attached to the ship which.*

These modern ship engines vary in design and use but they all provide the brute force necessary to move monster ships through monster waves. Powering naval ships worldwide gas turbine engines let you feel the acceleration of a boat while conning a ship. But naval applications are not alone in the use of gas. We choose the LM for the sheer number of these units installed aboard ships, well over one thousand at last count. The LM marine gas turbine is a simple-cycle, two-shaft, high performance engine. Easy to install and maintain, the LM features the following: The LM delivers high thermal efficiency and low fuel and airflow per horsepower produced. While ships are already incredibly efficient compared to all other modes of transportation the merchant fleet still has yearly carbon dioxide emissions equal to the emissions of million to million cars. Of course they carry more cargo than trucks and cars but there is room for significant improvements in emission reduction. General Atomics is developing Electric Ship technologies in support of Integrated Power Systems for a range of ship class applications. These technologies utilize advanced power conversion technology to convert and distribute shipboard electrical power with improved reliability, survivability, and power quality GA will evaluate new architectures for distributing power and will develop the enabling high-voltage power electronics systems required to meet the electrical power demands of modern warships and merchant vessels. The reason is speed vs cost. Operating a large diesel engine requires less fuel and larger amounts of horsepower for long ocean transits. But what if you want the economy of a marine diesel for extended voyages but need the speed of gas turbines when operating close to land? This is the problem faced by designers of the Queen Mary II. Queen Mary 2 carries 8 spare blades on the foredeck, immediately forward of the bridge screen. Residents of the town of Irsching in Bavaria, came out in droves this year to witness the traditional raising of their white and blue maypole. This odyssey was undertaken because the only way to truly test such a large and powerful turbine is to put it into operation at a power plant. The Wartsila-Sulzer RTAC turbocharged two-stroke diesel ship engine is the most powerful and most efficient prime-mover in the world today. It is available in 6 through 14 cylinder versions, all are inline engines. These engines were designed primarily for very large container ships. The engine weighs in at 2, tons and is capable of delivering , horsepower. Since the largest engines are direct drive this solution would not work for ships like the Deep Ocean Ascension wich is outfitter with Six Rolls-Royce 5. This popular engine, which is efficient, has low emissions, and is able to run on various liquid fuels, has stayed at the top of the industry thanks to long-term product development. The engine still attracts new customers worldwide both in the marine and energy industries. Moreover, most of the engines built 30 years ago are still in use Contest Looking to add a free gCaptain shirt to your wardrobe? Identify the following ship engine photo in the comments section and you may qualify to win. Interested in Ship Engines? Visit our Marine Engineering Forum , the meeting place of professional ship engineers. Blog , Engines Tagged With:

## Chapter 8 : Engine Parts and Their Functions

*A ship is a large watercraft that travels the world's oceans and other sufficiently deep waterways, carrying passengers or goods, or in support of specialized missions, such as defense, research and fishing.*

## Chapter 9 : MARITIME DICTIONARY â€œ Officer of the Watch

*General cargo ship A,B,www.nxgvision.coms No 1, No 2, No3, C cofferdam www.nxgvision.com gear, masts and derricks 2. hatch covers 3. cargo winches 4. mast house 5. main deck 6. second deck 7. 'tweendeck centreline bulkhead*

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8. lower hold centreline bulkhead 9. transverse bulkhead tank top stowage in holds deck cargo A bow.