

Maritime Technical English Course

2nd Module





Objective

The objective is to communicate orally and in written form in English in different situations on board the ship, in port and in the field.



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Ship's Berthing Equipment and Mooring Operators

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Shipyards

SHIP'S BERTHING EQUIPMENT AND MOORING OPERATORS



Ground Tackle

Ground tackle refers to all the parts of an anchor package between the boat and the anchor. It includes **the anchors, anchor cables or chain, connecting devices, and the anchor windlass**. It is all equipment that prevents the ship from moving.

Nomenclature of the Ground tackle

- **Anchor:** Devices, usually of steel, attached to a vessel by a cable and dropped overboard so as to grip the bottom and restrict the vessel's movement.
- **Hawse pipe:** It is the pipe through which the anchor cable goes down to the anchor.
- **Shackle:** A U-shaped bracket, the open end of which is closed by a bolt (shackle pin), used for securing ropes, chains, etc.

- **Windlass:** A machine for raising weights by winding a rope or chain upon a barrel or drum driven by a crank or motor. It has a horizontal axle.
- **Capstan:** Vertical revolving cylinder placed on the forecastle. It is used for heaving the anchor chain, cables, and mooring ropes.
- **Chain Locker:** Compartment where the anchor chain is stowed when it is not in use.

We can see devices such as: Bollard, Windlass, Fairlead and Anchor, Hawse pipe, Shackle, Cleat, Capstan and Fairlead which can be used to berth and unberth the ship.



Deck Fittings

Deck fittings are used aboard ships mainly for the **securing of mooring lines. They come in different shapes and sizes.** They are screwed in tightly to the deck of the vessel. The bollard is also a dock fitting.

Pieces of the Deck Fittings

- **Cleat:** A device used for securing lines on ships. They have two screw holes, one on each end.
- **Bollard or Bitt:** A strong wooden or metal post mounted on a wharf, quay, etc., used for securing mooring lines.
- **Fairlead:** It is a device to guide a line, rope or cable around an object, out of the way or to stop it from moving laterally. It is a ring or hook.
- **Chock:** Chocks are also metal fixtures with one hole at each end that are fitted to the ship's deck.

Ship's mooring operators

Mooring operators are **seafarers or ship's crew members** who **secure the ship to any permanent structure** such as ports, docks, piers or even floating buoys.

They use lines, chains, anchors, fittings etc. to perform this job.

Who can do mooring job?

Certified staff such as able seamen (AB) and crew members of the ship's deck department: the third mate onboard.



Mooring operation is one of the **important tasks** that seafarers perform on ship's deck. Technically, the operation **seems simple, but it is really dangerous.**

As a seafarer, you always hear about “**Death Traps**” on ships and how crew members can have accidents and lose their lives during mooring operation.

That is why this job cannot be underrated.

What steps must a mooring operator follow?**Checking all
the mooring
equipment****1**

Mooring winch, drums, windlass etc. involved in the mooring operation for any kind of problem. Proper routine maintenance is the key to ensure smooth running of mooring equipment and systems.

It is extremely dangerous. It is really important to use mooring lines of the same size and material for all leads. Avoid the use of mixed moorings comprising full length synthetic ropes used in conjunction with wire. If a synthetic rope and a wire are used in the same service the wire will carry almost the entire load while the synthetic rope carries practically none..

2**Avoiding mixed
mooring****Keeping a
continuous check****3**

Check continuously the load on the mooring lines, even after the mooring operation is over. If there is any change in the ship's ballast condition, slack or tighten the lines accordingly. Check the condition of the rope material to foresee unfortunate accidents.

Arrange all mooring lines as symmetrically as possible with the breast line. The breast line should be perpendicular to the longitudinal center line of the ship and the spring line should be parallel to the longitudinal center line.

4**Arranging mooring
lines symmetrically**

Warning: Terms mentioned above are not an exhaustive list but they cover important points to consider during mooring operation.

GRAMMAR**Simple present with auxiliaries Do-Does and Question in simple present:**

Simple present refers to daily activities. When we want to make questions, auxiliaries do or does are used.

Let's see How sentences are formed:

- Subject + VERB + (s/es in third person) + complements. (Affirmative).
- Subject + do/ does not + VERB + complements. (Negative).

We are going to see **some examples** with each pronoun so you can notice the differences in the forms of the verbs.

1. They use deck fittings to secure mooring lines.
2. Fairleads prevent rope chafing.
3. The windlass raises the anchor.
4. The chain locker does not stow the anchor.
5. We need the capstan to wind in the rope.
6. She works as a merchant marine officer.

Can you see the different verbs with each pronoun?

Remember verbs work differently if we are using the third person in singular (he, she or it). We have to add an "s" or an "es".

GRAMMAR

Now we are going to see how we form questions with this tense

Form:

- Yes/ No questions

Do/ Does + Subject + verb + complements?

- Information questions

Wh word + do/ does + subject + verb + complements?

Let's see some examples:

1. **Do they wear** protective equipment in the mooring operation? Yes, they do.
2. **Do you need** training for the mooring job? Yes, I do.
3. **Does she work** as a merchant marine officer? No, she does not (doesn't).
4. **What does** the mooring operation involve? It involves responsibility.
5. **When do they start** the mooring operation? They start early in the morning.

Notice how the verbs change when the third person(he, she, it) is used.

SHIPYARDS



Shipbuilding and Shipyards

Shipbuilding is the construction of marine vessels.

This includes:

1. Cruise ships,
2. Navy ships,
3. Bulk carriers,
4. Tankers, and
5. Small offshore vessels.



The shipbuilding activity is done in a **shipyard**.

Shipyard is a place to build, maintain, and repair ships and boats.

The shipyards are small or big in terms of size and technical capacity. They build multiple types of marine vessels.

Every shipyard has specific specialization to construct a small number of specific ship types.

Building a marine vessel takes from **a few months to a couple of years**. It depends on the type and size of the ship.

Shipyards are often located along a large inland river, harbor, or shoreline.

Shipbuilding and Shipyards

Shipyards are often located along a large inland river, harbor, or shoreline.

A lot of people work in a shipyard, for example:

1. Naval architects,
2. Engineers,
3. Electricians, and
4. Other skilled people



They contribute to the construction of a ship.

The discipline of shipbuilding and ship repairs is “**naval architecture**”. It is the **design, construction, operation and maintenance of marine vessels**.

Shipbuilding requires high level of technical expertise and expending a lot of money. As a result, only **a limited number of countries in the world have necessary technical expertise and resources for building large-sized ships**.

Shipbuilding and Shipyards

South Korea is so far one of the principal shipbuilding nations in the world. It is followed by **Japan and China**. Europe and the United States are other regions where they build ships.



Basic Classification of Shipyards

This is a basic classification of shipyards:

1. **Shipyard class A.** These shipyards have the capacity to build the biggest and highest technology ships.
2. **Shipyard class B.** These shipyards build ships up to 400 meters range. They also have the best technology and driving force, but they do not have the resources to build massive cruise liners and bulk carriers. They are also limited in the number.
3. **Shipyard class C.** These shipyards build small ships, under 150 meters range. They can build large cutters (sailing vessels), small frigates and free traders. They do not always have the latest technology or methods of building. They usually build no more than ten ships at a time.



Basic Classification of Shipyards

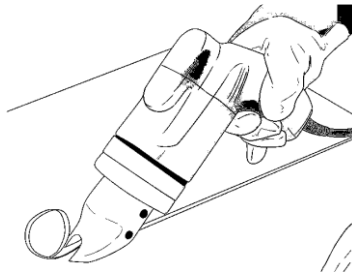
Shipyard class D. These are repair facilities without the ability to build ships of any size.



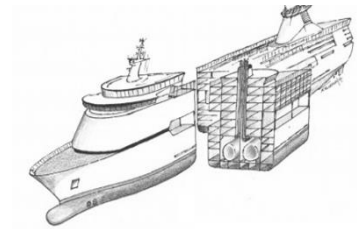
Now you should know about some jobs done in a shipyard:



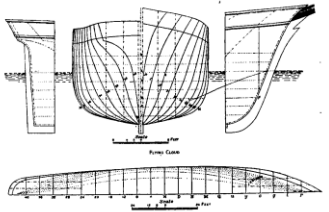
Welding



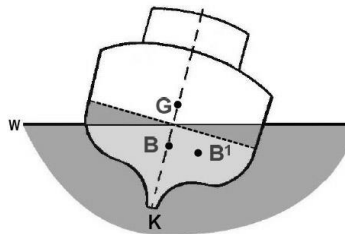
Cutting Steel



Assembling



Designing



Testing ship's stability

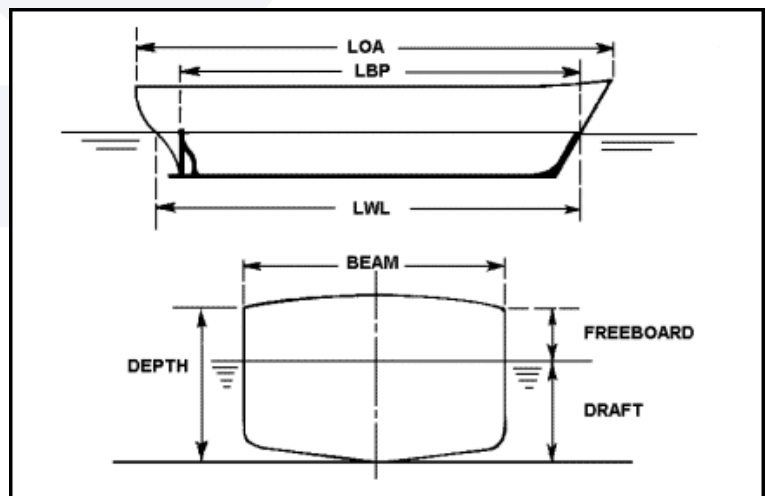


Installing electrical systems

Ship's Dimensions

The **maximum breadth** of the vessel, which is found in the amidships body, is known as **the beam**.

The **maximum length** of the vessel, from bow to stern, is known as **length overall**.



GRAMMAR**Present progressive tense:**

Present progressive It is a tense related to activities happening at the moment.

We form sentences in present progressive with verb to be in present (is – are - am) and another verb in the ing form.

Follow the patterns:

Subject + is-are-am (not) + verb ing + complements. (Statement)

Is- Are- Am + subject + verb ing + complements? (Yes/No questions)

Wh-word + is-are-am + subject + verb ing + complements?
(Information questions)

Let's see some examples:

1. **They are building** the ship in a shipyard.
2. **He is not studying** Naval Architecture.
3. **Are you specializing** in ship design?
4. **I'm not working** in the shipyard.
5. **Where are they repairing** the vessel?

Notice the verb to be in each pronoun.

BIBLIOGRAPHIC REFERENCES

Blakey, T. (1987). **English for Maritime Studies**. Second edition. Prentice Hall International English Language Teaching. UK.

Chopra, K. (2017). **Ten important points to remember during mooring operations on ships**. Article on line. Web page Marine Insight. Retrieved from: <https://www.marineinsight.com/marine-navigation/10-important-points-remember-mooring-operation/>

Coppola et al. (2016). **Handbook of best practices**. Book on line pdf. Retrieved from: <http://www.fixo3.eu/download/Handbook%20of%20best%20practices.pdf>

Dokkum, K. (2003). **Ship Knowledge. A Modern Encyclopedia**. Printed by: Giethoorn Ten Brink bv. Meppel, The Netherlands. Published by: Dokmar.

IMO Standard Marine Communication Phrases (2001). Resolution A.918(22). Adopted on November 2001 (Agenda Item 9)

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (2005). Electronic Edition. International Maritime Organization (IMO). London.

Macmillan Dictionary (2009). **Parts of boats and ships**. Web page. Retrieved from: <https://www.macmillandictionary.com/.../parts-of-boats-and-ships>

Oil Companies International Marine Forum (2010). **Effective Mooring: Your Guide to Mooring Equipment and Operations**. Third edition. Witherby Seamanship International.

BIBLIOGRAPHIC REFERENCES

Pexels (2108). Web page. Best free stock photos in one place. Retrieved from: <https://www.pexels.com/>

Strong Nares, G. (1876). **Seamanship**. Fifth Edition. Griffin & CO Printers and Publishers.

Shipbuilding (2014). **Shipbuilding Picture Dictionary**. Web page. Retrieved from: <https://forshipbuilding.com/equipment/anchors/>

Shipbusiness (2015). **Safe Mooring Operation in Port**. Web page
Blakey, T. (1987). **English for Maritime Studies**. Second edition. Prentice Hall International English Language Teaching. UK.

Conn, J. & Coulson, C. (2018). **Ship Construction**. Encyclopedia Britannica inc. website. Retrieved from: <https://www.britannica.com/technology/ship-construction#ref66753>

Coppola et al. (2016). **Handbook of best practices**. Book online pdf. Retrieved from: <http://www.fixo3.eu/download/Handbook%20of%20best%20practices.pdf>

Dokkum, K. (2003). **Ship Knowledge. A Modern Encyclopedia**. Printed by: Giethoorn Ten Brink bv. Meppel, The Netherlands. Published by: Dokmar.

Haun et al. (2018). **Shipbuilding/ Vessel Construction**. Article online. MarineLink website. Retrieved from: <https://www.marinelink.com/articles/maritime/shipbuilding--vessel-construction-100164>

BIBLIOGRAPHIC REFERENCES

IMO Standard Marine Communiation Phrases (2001). Resolution A.918(22). Adopted on November 2001 (Agenda Item 9)

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (2005). Electronic Edition. International Maritime Organization (IMO). London.

Jassal, R. (2016). **Understand Ship Construction Better**. MySeaTime online blog. Retrieved from: <https://www.myseatime.com/blog/detail/10-simple-terms-to-understand-ship-construction-better>

Macmillan Dictionary (2009). **Parts of boats and ships**. Web page. retrieved from: <https://www.macmillandictionary.com/.../parts-of-boats-and-ships>

Pexels (2108). Web page. Best free stock photos in one palce. Retrieved from: <https://www.pexels.com/>

Strong Nares, G. (1876). **Seamanship**. Fifth Edition. Griffin & CO Printers and Publishers.

Shipbuilding (2014). **Shipbuilding Picture Dictionary**. Web page. Retreived from: <https://forshipbuilding.com/equipment/anchors/>

Unplash (2018). Web page. Free copyright pictures. Retrieved from: <https://unsplash.com/>



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End of 2nd Module

