



Purpose:

The e-learning module (ELM) is designed for theoretical training of navigators in accordance with Chapter II of the STCW Convention in the part concerning of loading operations.

The ELM is included in the "*Shiphandling basics*" library.

What is an e-learning module?

E-learning module is the electronic textbook on one or more sections. Theoretical materials can be accompanied by drawings, diagrams, photos, animations and videos. There is a test for assessment of knowledge gained at the end of each section.

Contents:

- Cargo handling equipment
- Cargo handling gear operation rules
- Cargo safety rules and regulations
- Cargo watchkeeping procedures in port
- Load line and draught marks
- Particulars of offshore cargo operations and preparation for them
- Equipment used for offshore cargo operations
- Arrangement of watercrafts alongside the ship
- Safety at operations with watercrafts
- Providing of cargo operations under various weather conditions
- Transshipment of cargoes on the roads and on the open sea
- Cargo operations in ice

Target groups

Deck - Management
Deck – Operational

Ship types

Generic



Regulations

Table A-II/1 STCW Code

Competence:

Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes

Table A-II/2 STCW Code

Competence:

Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes

Table A-II/3 STCW Code

Competence:

Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes



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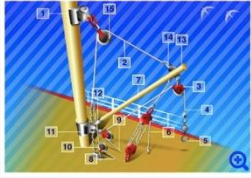
Section 1. Cargo handling equipment

Let's consider the derrick diagram.

The lower end of the derrick (spur) has a jaw with two eyes. A ring (cross-bar) with four lugs is placed on the upper end of the derrick. Derricks of a welded structure may not have a cross-bar, and lugs are welded to the derrick end to fix the rigging.

For the articulated connection of the derrick spur with the mast, at the latter, at a height of 2 – 2.5 m from deck, a shoe with an eye and a socket is installed.

Derrick end is supported by the span rope. By changing the length of the span rope, one can change the angle of the derrick. The span rope consists of a steel wire, the root end of which is attached to the upper lug of the end cross-bar. The second running end of the span rope passes through the span block fixed on the mast. Below the span block, a triangular link is attached to the span rope – the span rope triangle. On the other side, a long-link chain is attached to the triangle – a ranns stonner and a steel wire – a tinning



Light load cargo derrick:
1 – mast; 2 – span rope; 3 – cargo block; 4 – cargo runner; 5 – cargo hook; 6 – guy; 7 – derrick; 8 – rope to the winch drum of the cargo derrick; 9 – rope to the drum of the cargo derrick; 10 – topping rope; 11 – shoe; 12 – derrick spur; 13 – derrick end; 14 – cross-bar; 15 – span block.


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Section 1. Cargo handling equipment

Container ships that serve regular lines between ports that have container transshipment terminals, as a rule, do not have their own cargo handling gear. These ships are usually equipped with the 1 – 2 Union Purchase Rig for receiving food and supplies.



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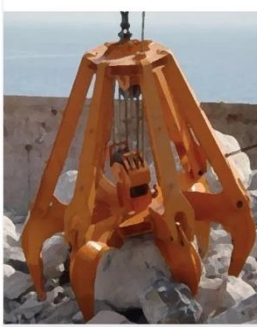
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Section 7. Equipment used for offshore cargo operations

Cargo rigging and cargo handling equipment.

The following cargo rigging is required to perform cargo operations in open roads:

- sling with four hooks for transshipment containers, cargo nets, platforms weighing up to 5 tons;
- cargo net for handling various cargoes;
- common cargo sling for handling goods in bags from the ship to the barge;
- single-rope grab for transshipment coal from the ship into containers installed on a barge;
- sling for slinging cargo by strapping;
- clip hook for handling metal end wooden barrels;
- crane frame designed for hanging load-handling equipment on it and moving cargo from a ship to a




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Section 7. Equipment used for offshore cargo operations

A team of highly qualified seamen is assigned to launch and lift barges, tractors and other heavy cargo on board. Chief officer is in command of this team. Before each launching (lifting) operation, a detailed analysis of the upcoming operation is carried out with the team. Each member of the team is assigned a workplace and specifically analyzes his actions, signals for the commands given to the team are set, and checks of the entire cargo handling gear are made.



Unsuccessful launching the self-propelled barge


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Section 9. Safety at operations with watercrafts

The decision to launch or lift the watercrafts is made by the master. Permission for the approach or departure of watercrafts is given by the watch officer (who subsequently conducts general supervision over them). Mooring and heaving lines, storm ladders, ready for use, should be located on deck at the places where watercrafts are moored. In the event of a person falling overboard, life buoys (at least two on each side) with throwing lines of at least 27.5 m in length and lamps should be hung in a visible place on both sides of the vessel. The rescue boat must be ready for immediate launch.




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Test tasks



Test of questions

Lifting capacity of "married" derricks...

Choose the correct answer

- decreases approximately twice.
- does not change.
- increases approximately twice.

Attempts: 1

COMMENT

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