



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 shiphandling in tug 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:

- Towing arrangement composition
- Rules of technical operation of the towing equipment
- Towing operations at sea
- Preparation of the crew and non-self-propelled objects for towing
- Bringing and securing of the towline
- Features of ship handling during towing
- Calculations of towlines and towing speed

Target groups

Deck - Management
Deck - Operational

Ship types

Generic



Regulations

Table A-II/1 STCW Code

Competence:	Respond to emergencies
Knowledge, understanding and proficiency:	Appreciation of the procedures to be followed for ... assisting a ship in distress...

Table A-II/2 STCW Code

Competence:	Respond to navigational emergencies
Knowledge, understanding and proficiency:	Emergency towing arrangements and towing procedures.

Competence:	Manoeuvre and handle a ship in all conditions
Knowledge, understanding and proficiency:	.7 ship and tug interaction.

Table A-II/3 STCW Code

Competence:	Respond to emergencies
Knowledge, understanding and proficiency:	.2 arrangements for towing and for being taken in tow.




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Section 1. Towing arrangement composition

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Foreword

Towing of ships at sea is a special case of maritime practice. As a rule, towing is performed by transport vessels or powerful tug ships. To carry out maintenance of the towed object, especially a large-tonnage vessel, when maneuvering in ports and narrows, one or two secondary tugboats are assigned to help the towing ship. The towing operation provides for: preliminary study of the upcoming passage plan, preliminary calculations for towing, recommendations to the masters.



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Section 1. Towing arrangement composition

Towing arrangement is a system of articles and mechanisms that provides the ship with the ability to tow other ships (or other floating crafts) or to be towed by other ships.

The composition of the towing arrangement of merchant ships includes:

- towline;
- towing bits;
- towing chocks;
- reels and pallets for storage of towlines.

In addition to the above, elements of anchor gear and mooring arrangement (capstans, anchor chains, bollards, etc.) are used.



Towing arrangement of the towing ship:
1 – towline; 2 – rope fender;
3 – towing chock; 4 – towing arch;
5 – bit; 6 – towing winch;
7 – tow hook; 8 – path;
9 – towing rail.

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Section 2. Rules of technical operation of the towing equipment

Towing hooks must be free of burrs, sharp corners, cracks and other external defects.


Damaged paint cover of hooks should be renewed periodically.

Hook buffer springs should be lubricated at least once every two months.

The rails and its reinforcing elements must not have cracks.

The bollards and bits must be firmly secured, free of cracks and dents.

The remote tow hook release mechanism must be in good working order and condition.



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Section 5. Bringing and securing of the towline

The messenger line can be given using an inflatable raft that drifts faster than the ship or a bunch of plastic bottles. The ship giving the messenger line approaches from the windward side as close as possible to the ship to which the messenger line is given and drops the inflatable raft with the messenger line attached to it. The inflatable raft will drift faster if its water stabilizers are sheared off before being dropped into the water.

In many cases it is better to give the messenger line and take in or give the towline from leeward at the bow of the vessel. At this, the possibility of using the engine is preserved and the danger of wrapping the ropes on the propeller is reduced.

The line can be given using line throwing apparatus. To do this, the ship must go along the towed vessel at a sufficiently safe distance and throw a line onto her. Line throwing apparatus make it possible to quickly and reliably give the line.



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Section 4. Preparation of the crew and non self-propelled objects for towing

Preparation of ships for the forthcoming towing should include all issues related to the organization and safety of the towing operation. For this purpose, it is necessary to:

- both ships must have experienced crews (very important);
- supply the main and spare towing equipment;
- reinforce towing arrangements;
- provide ships with additional emergency communication equipment;
- provide emergency and rescue equipment;
- carry out the study of the upcoming route and identify likely ports of shelter;
- supply both ships with fuel, water and supplies, based on the planned duration of the voyage and taking into



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Test tasks

How far can a guide line be given using a line throwing apparatus in calm weather?

Choose the correct answer:

- At least 300 meters.
- At least 50 meters.
- At least 150 meters.
- At least 230 meters.

Attempts: 1



COMMENT

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