

# UNIT I

## MAIN PARTS OF SHIPS

# HULL

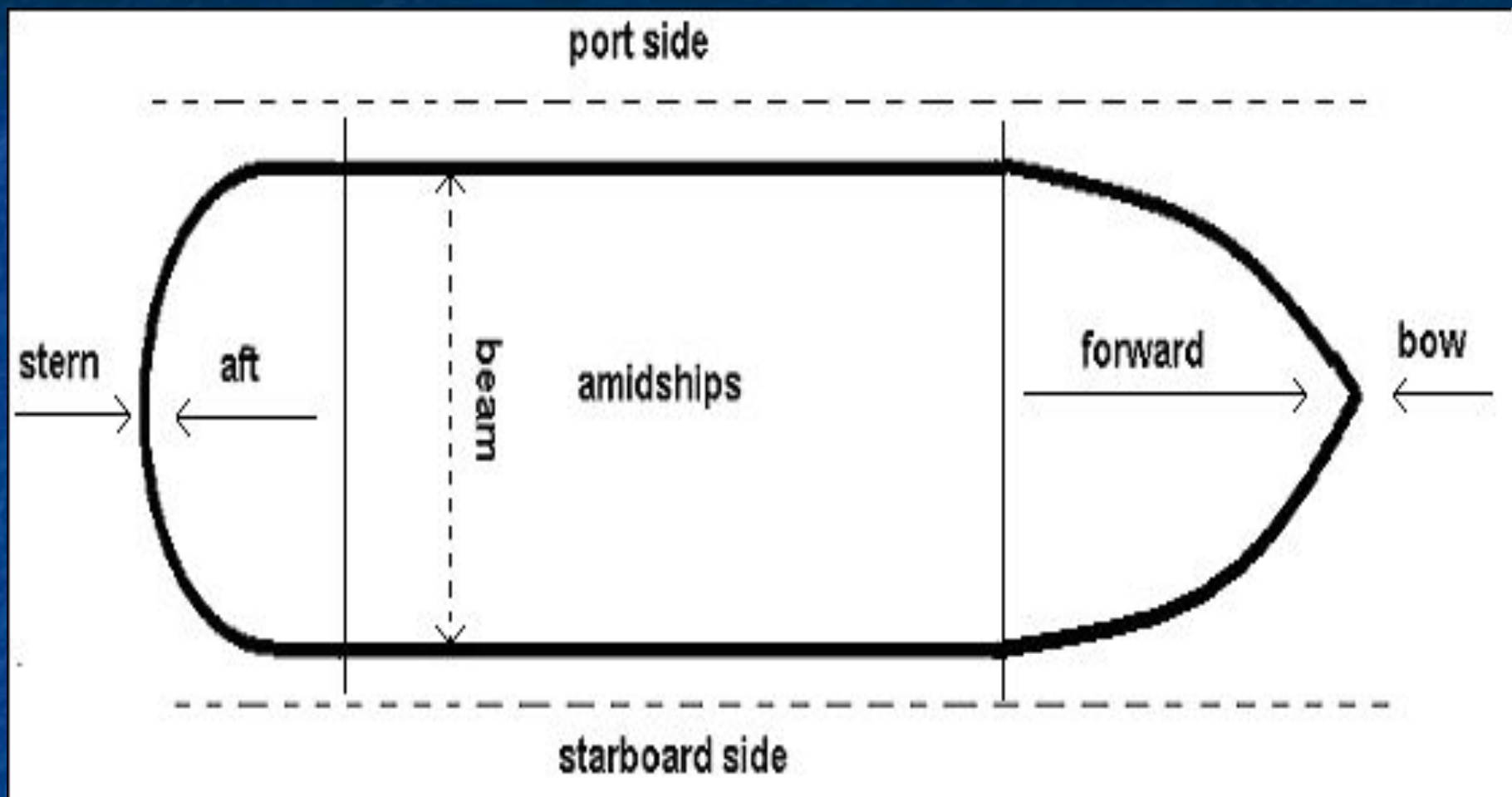
There are two main parts of a ship: the hull and the machinery. The main structure of a ship is **hull.**

The keel is the backbone of the hull

- The hull is divided into three areas: fore end, after end and amidships.



- The fore end is bow, the after end is stern. The right side of ship is called the starboard and the other side is port



# BOW





# KEEL





The depth of ship's bottom or keel below the waterline is draught. The beam of the ship is the distance between the two sides.

- The frames, bulkheads, floors and beams complete the skeleton of hull.
- The frames which are ribs of the ship are covered by plating.

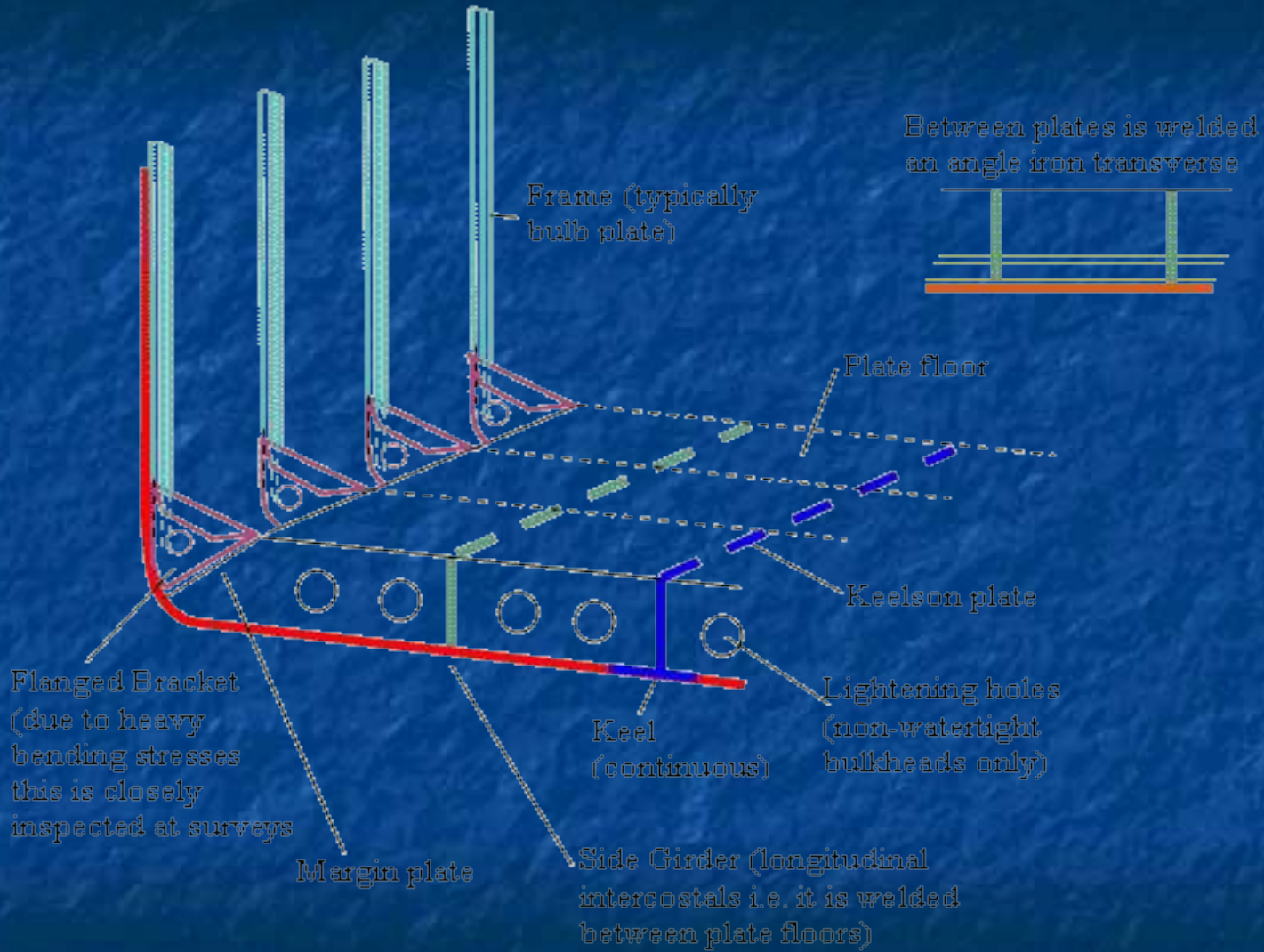
# frames

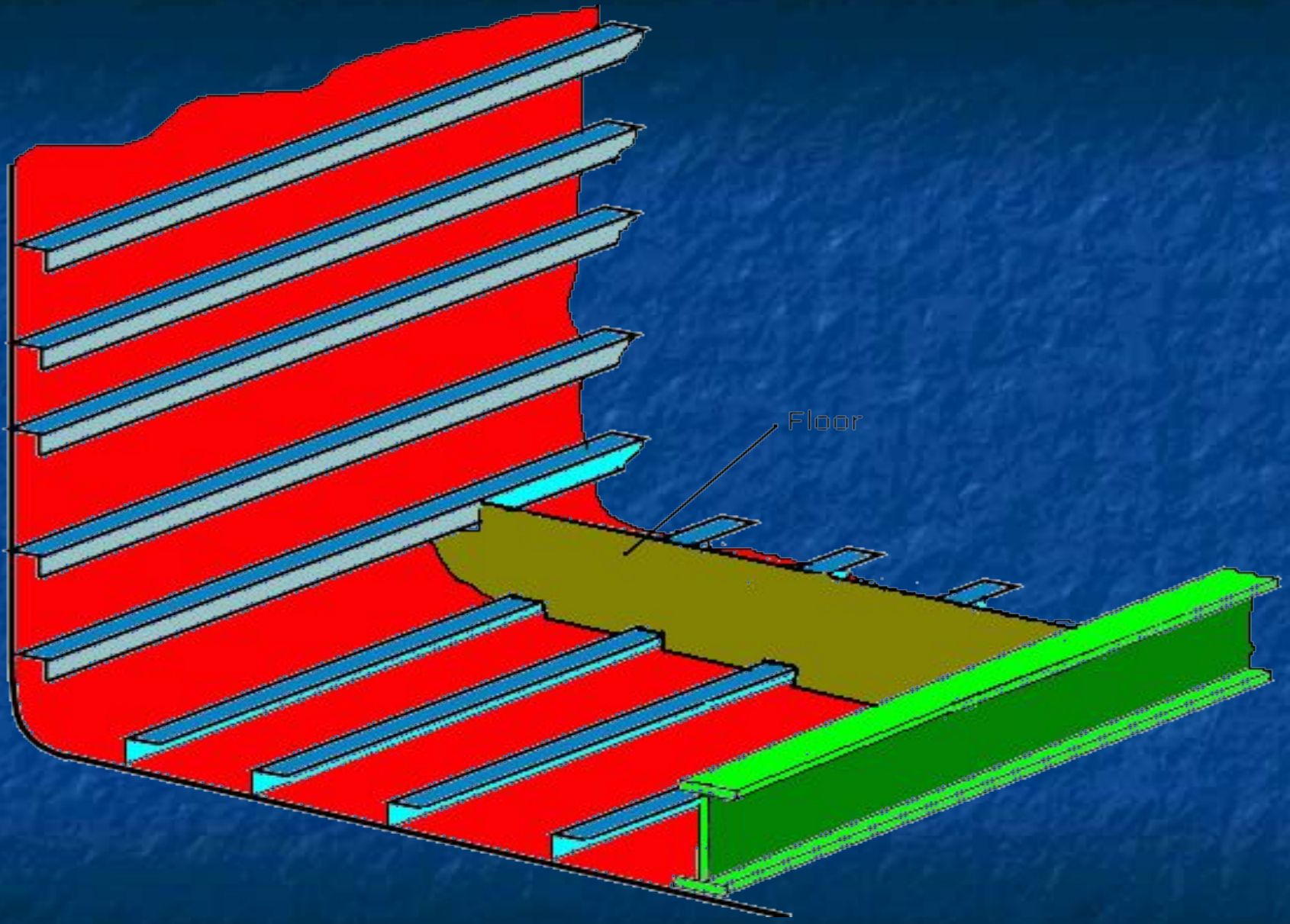






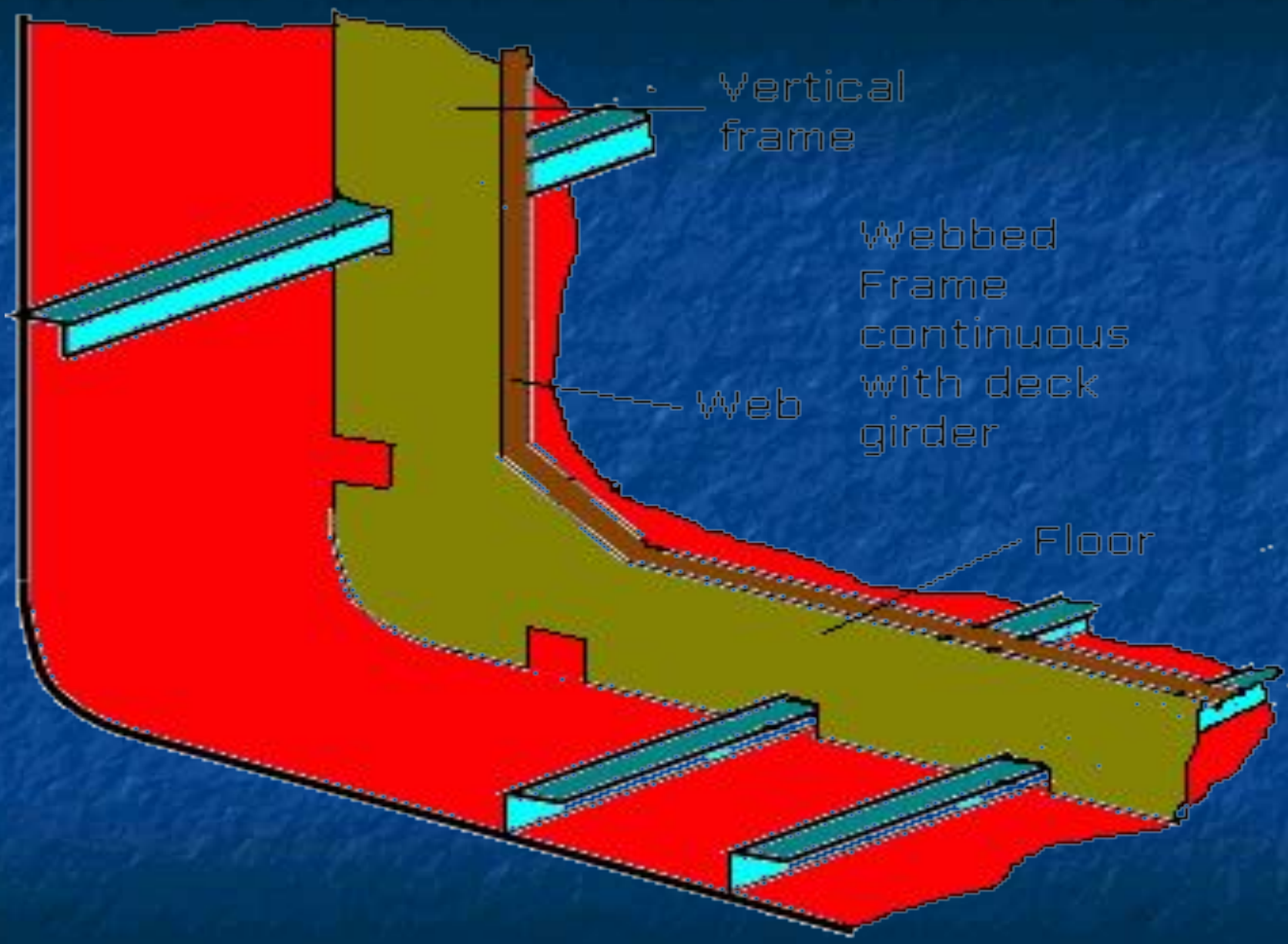






Floor





Vertical  
frame

Webbed  
Frame  
continuous  
with deck  
girder

Web

Floor



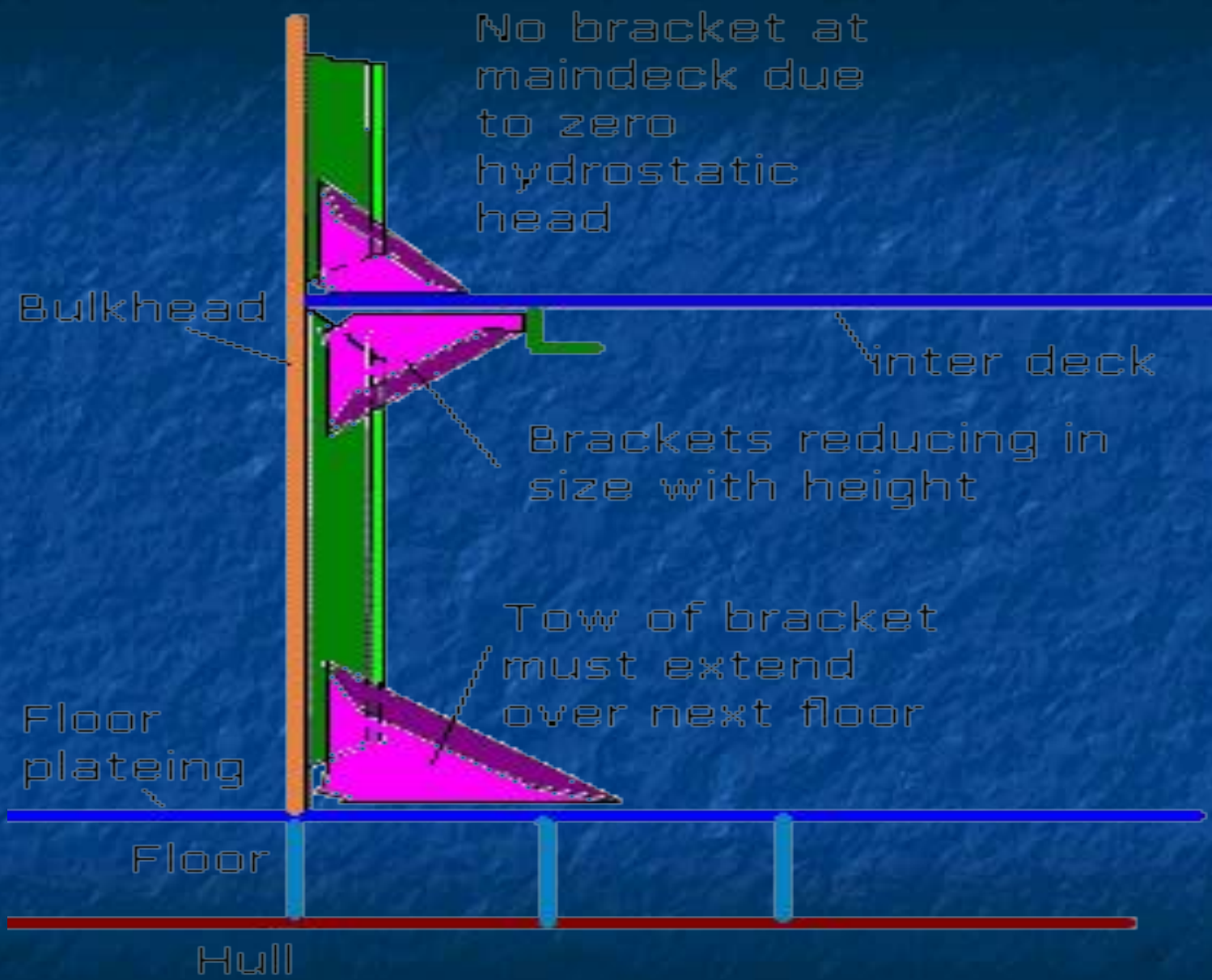
Frame

Bracket

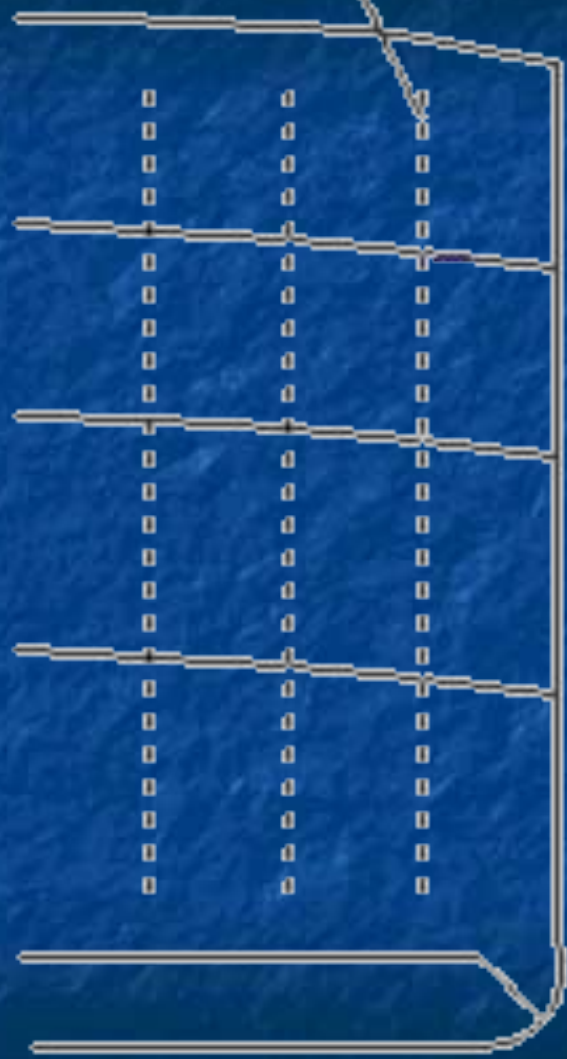
Plate floor

Keelson





Bulb plate stiffeners



Top deck



# DECK

- The upper deck covers the holds or tanks.
- Deck equipment includes: cargo handling, steering, anchoring and mooring arrangements.



- The cargo is loaded or unloaded through hatches by cranes or by derricks.



- The derricks are fitted to the masts on deck and are operated by winches.

# HOLD



# CARGO HOLD





# HATCHES



Despite the success of open-top ships, APL still chose to configure the C11 with hatchcovers to suit its worldwide terminal operations.

# HATCH





# MAST





# CRANE



# DERRICKS

(c) Leon van Duivendijk





# ANCHOR





# ANCHOR



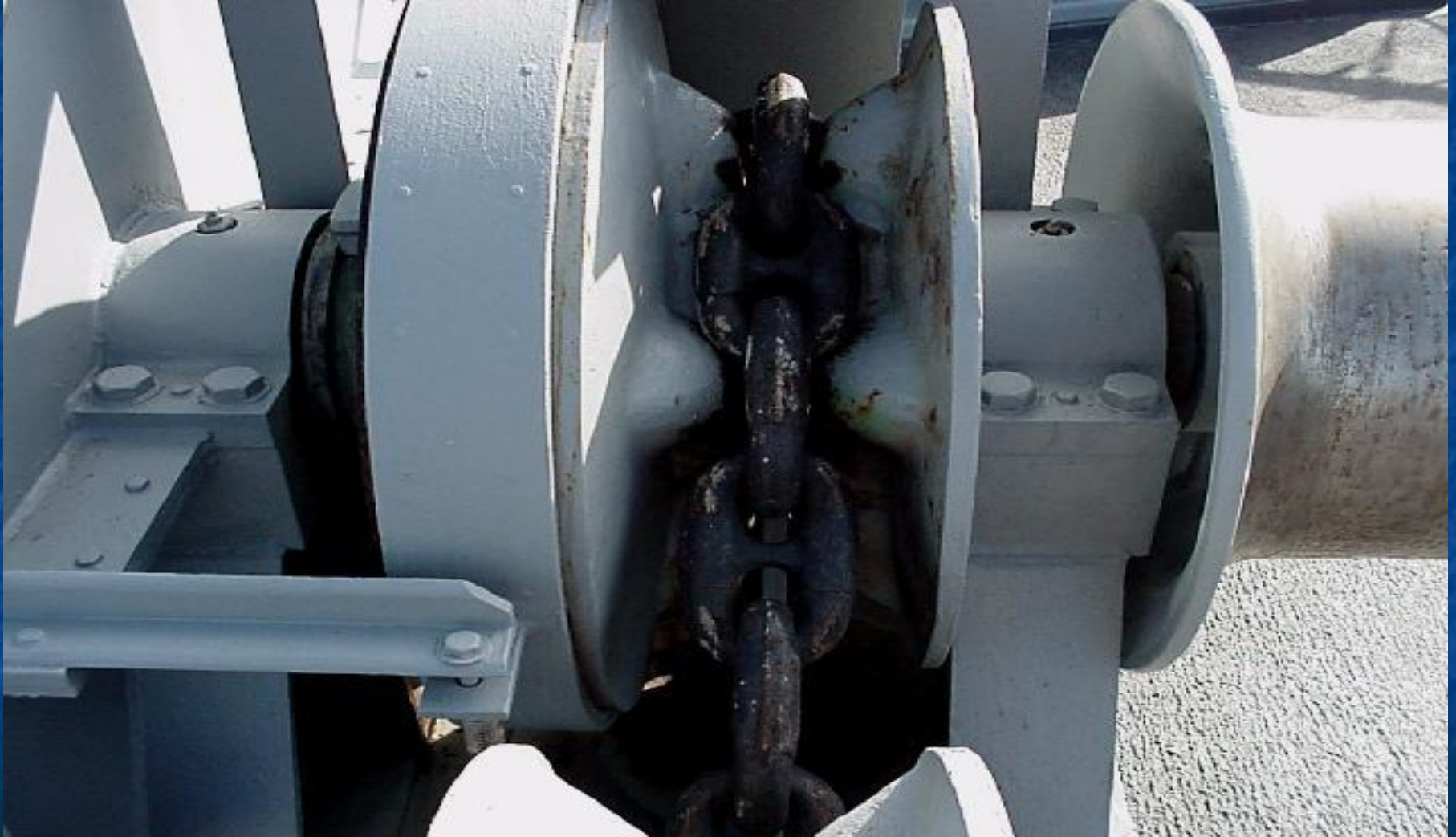
# MOORING



- The anchoring arrangement is the windlass used for lowering and raising the anchor and anchor chain. The mooring arrangement consists of a winch, bitts and fairleads .



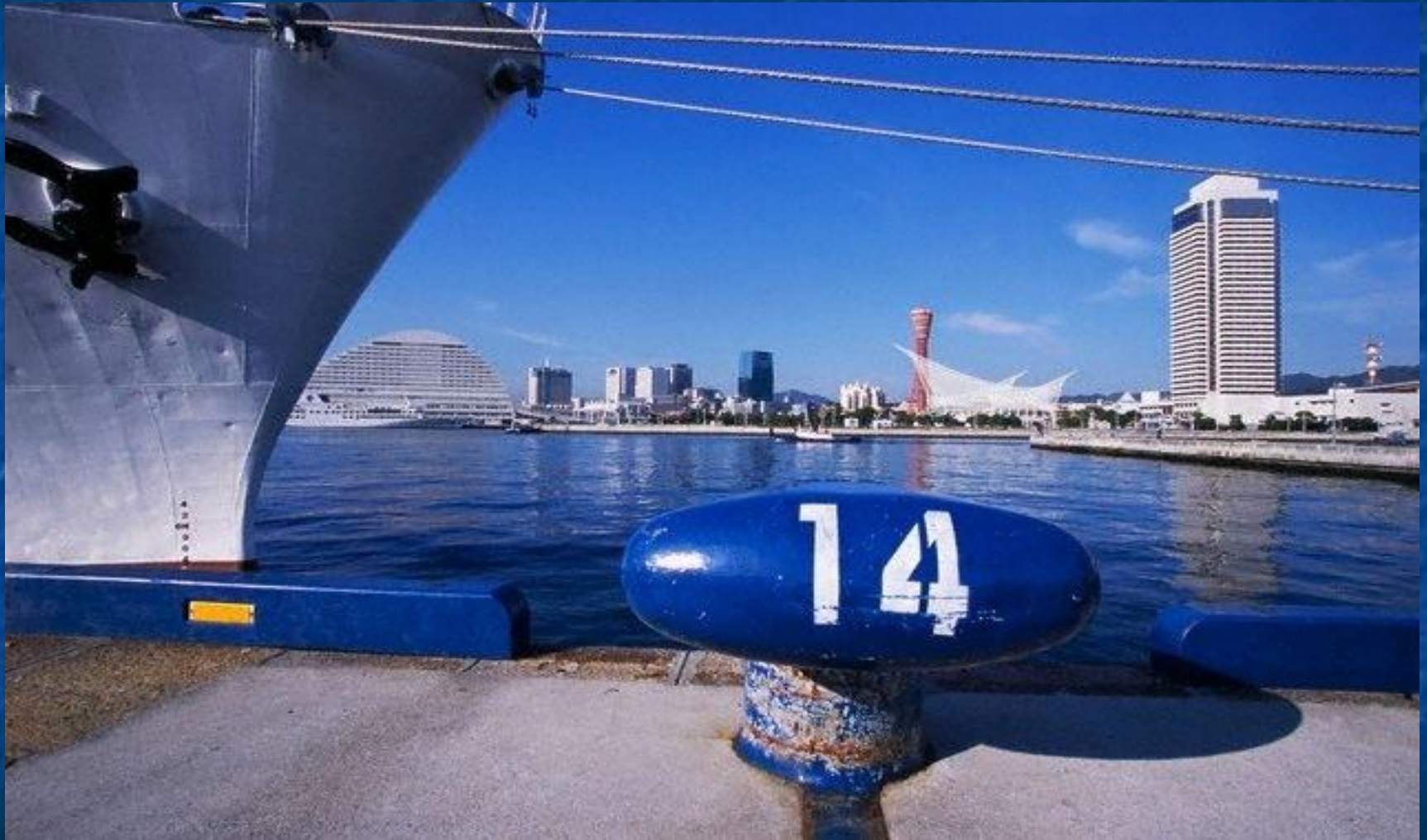
# WINDLASS







# BOLLARD





# BITTS



# FAIRLEAD





# PADEYE





# CLEAT



# SHACKLE



# ANCHOR CHAIN





# ROPE







- Lifeboats are arranged on the port and starboard side. They are carried in davits and are used for life-saving purposes.



# LIFERAFT







2003-19-d-03

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# LIFEBOAT



# LIFERING





# STERN

- The purpose of the steering gear is to keep the vessel on a steady course.
- A ship is steered by its rudder which is a flat plate at the ship's stern.

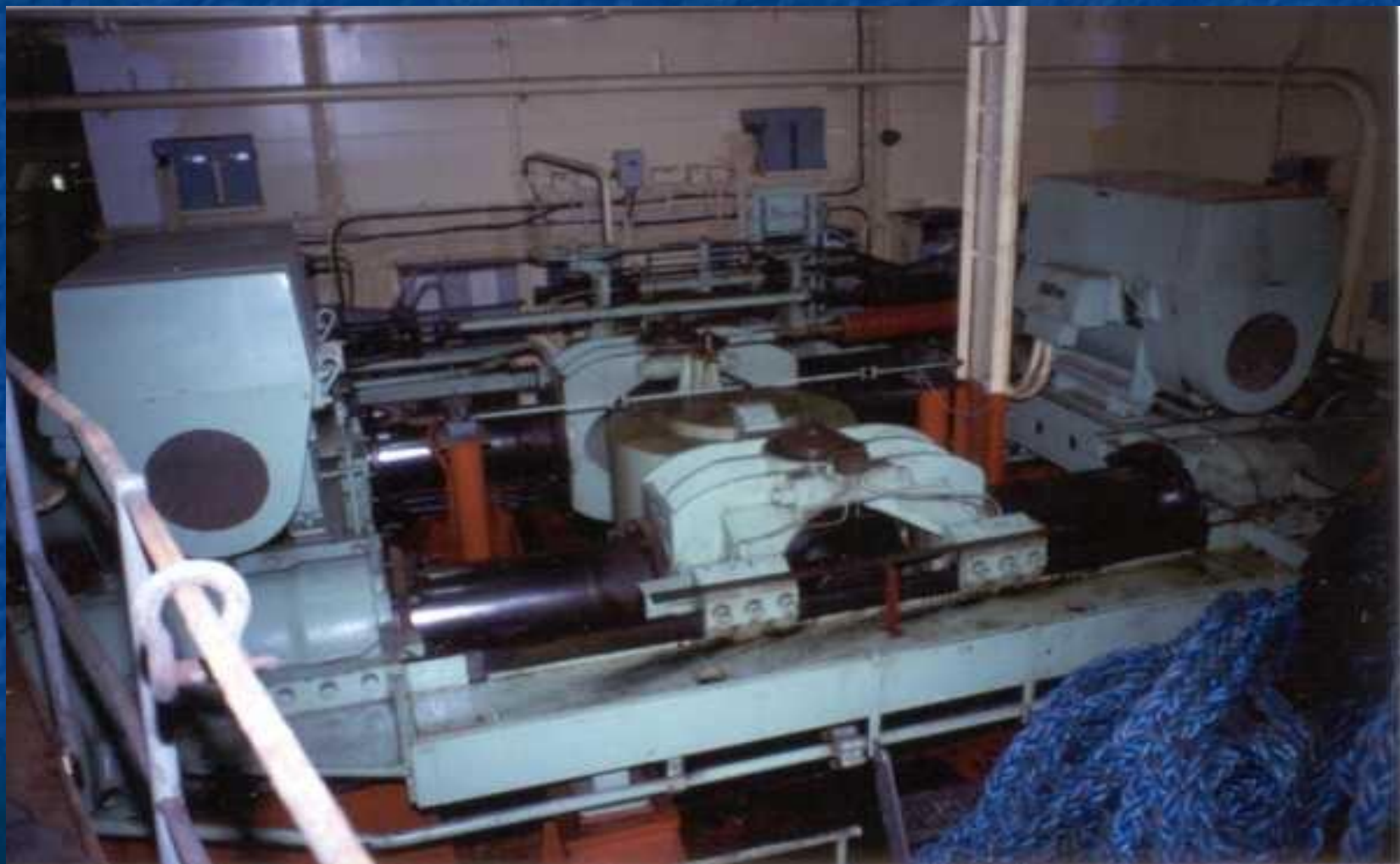
- The rudder is turned by steering engine which is located in the steering gear compartment.



# STEDN

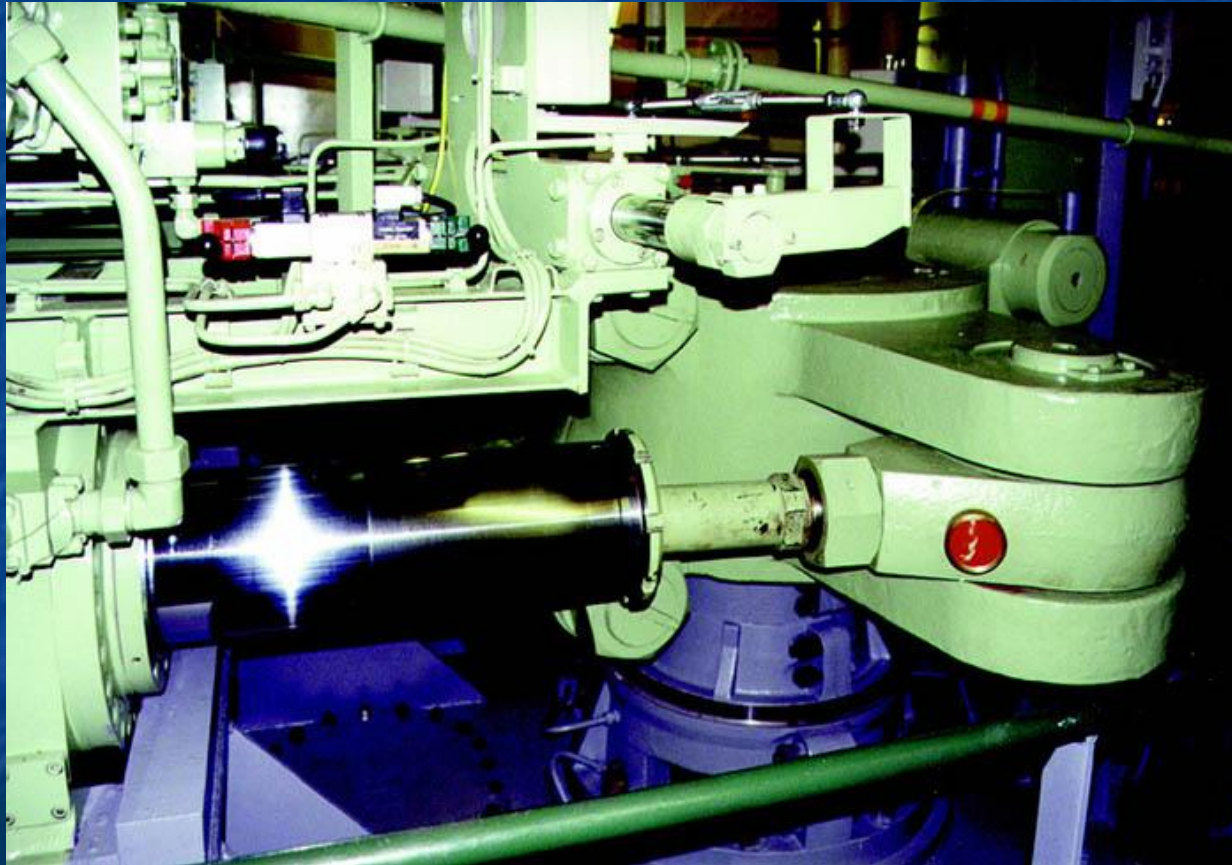


# STEERING GEAR COMPARTMENT





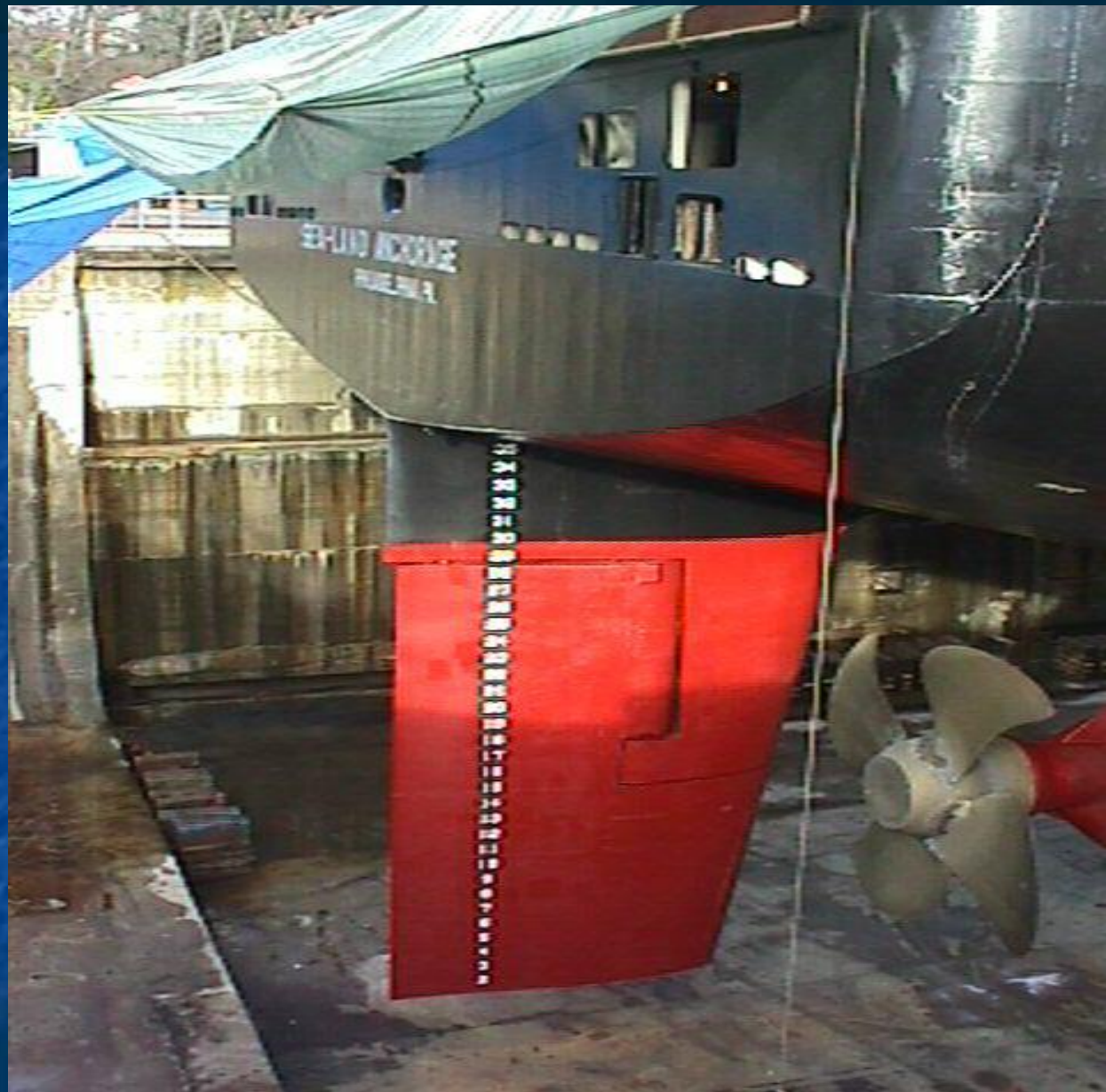
# STEERING GEAR



# RUDDER





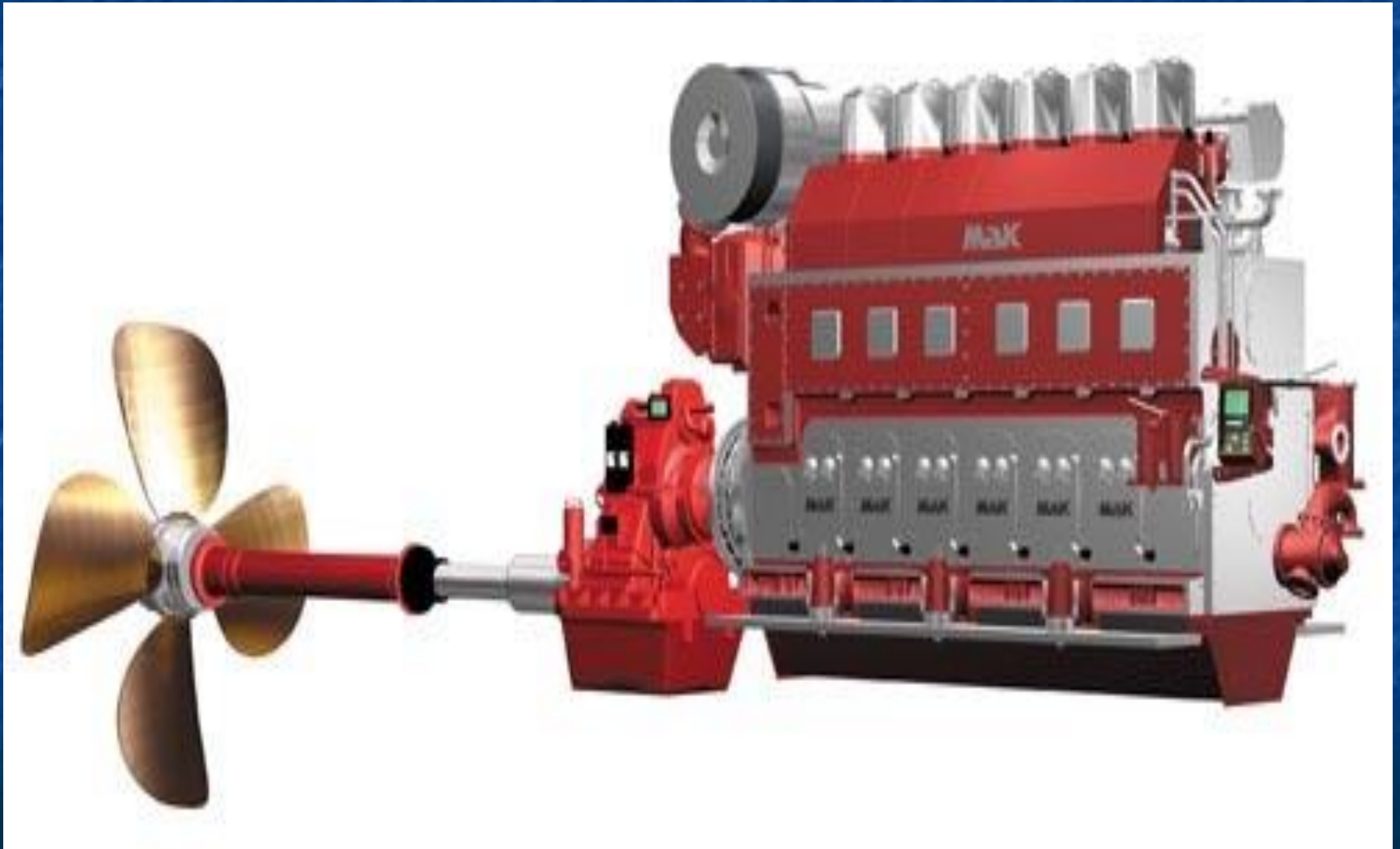


# PROPULSION

- The ship is moved through the water by one or more propellers.
- Shafts transmit the rotary motion of a ship's engines to its propellers.
- The engine is fitted in the engine room .



# PROPULSION SYSTEM



# PROPELLER





# BRIDGE

- The ship is controlled from the bridge by the captain or navigating officers.
- Near the bridge there is funnel.

# BRIDGE







# FUNNEL





- The captain, officers and the crew are accommodated in cabins.

- The meals are prepared in galleys and laundry is done in the laundry room.



- Officers usually eat in the officers' mess with waiter service.
- Crew members dine in the self-service or waiter service crew mess.

# CABIN(STATEROOM)





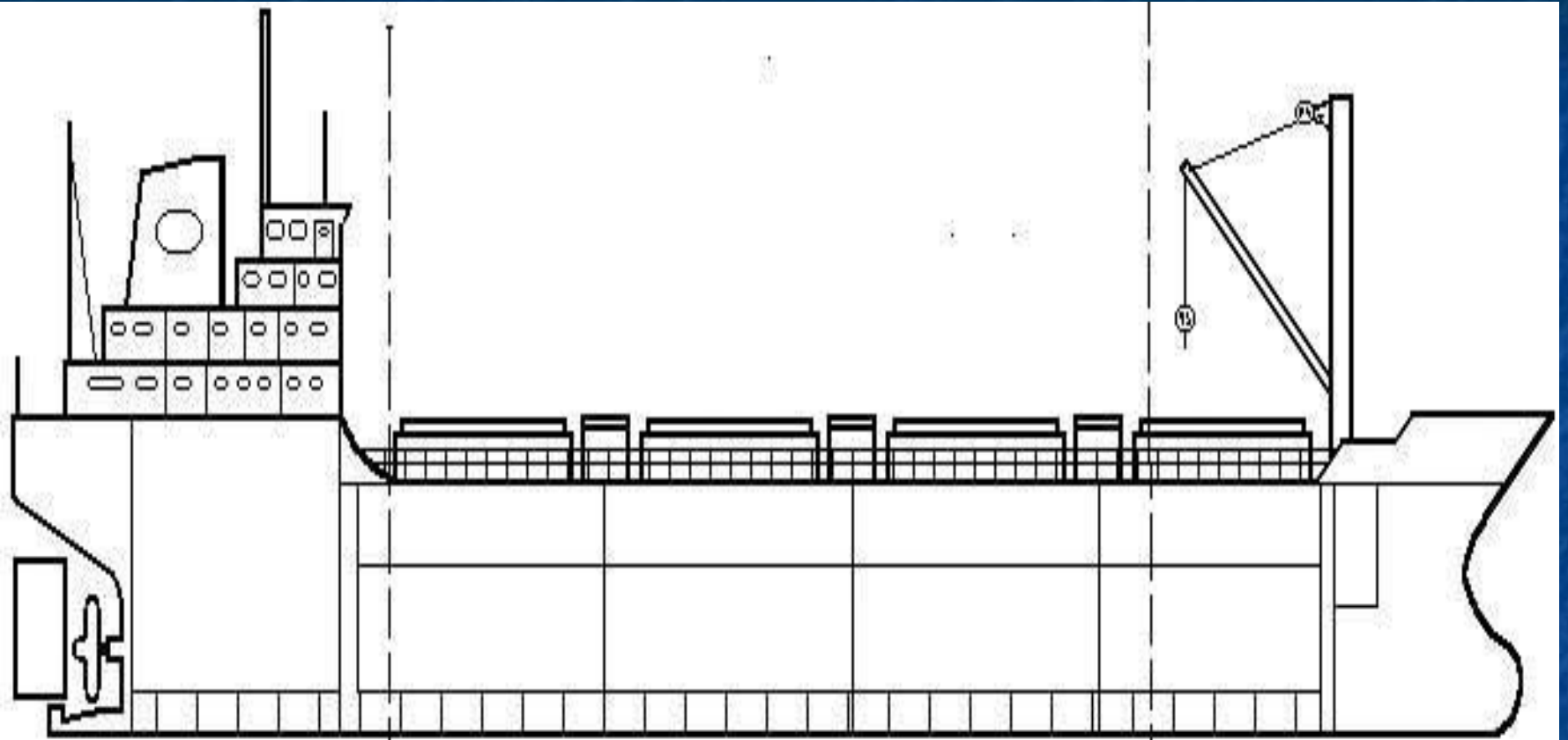
# GALLEY



# LAUNDRY







# ANSWER THE QUESTIONS

**1-What are mooring arrangements?**



**2-How is cargo loaded?**

**3-What is the rear part of the ship called?**



4-Where is the laundry done?

5-What is a galley?

# ETYMOLOGY

**Deck** < German, *decken*, to cover

**Derrick** < after Thomas Derrick, London hangman of the early 17th century, applied to a gallows



**Galley** < The galley is the kitchen of the ship. It is a corruption of "gallery". Ancient sailors cooked their meals on a brick or stone gallery laid amidships.

**Mast** < German *mast*, a pole < Latin *malus*,  
mast < Irish *maide*, a stick

**Anchor** < Greek *ankyra*, hook

# SOME TERMS

- Accommodate (v)- To provide a place to stay, live or work.
- Propel (v)- To drive and move forward.
- Rotary (adj.) - Moving in circles round a central point



**'The depth of the ship's keel from waterline' is;**

- a. freeboard**
- b. bottom**
- c. draught**
- d. water line**
- e. deck**

**'The depth of the ship's keel  
from waterline' is;**

**c. draught**

# Derricks are fitted to the ship's;

- a. bulwark
- b. bitts
- c. masts
- d. castles
- e. davits



**Derricks are fitted to the  
ship's;**

**c. masts**

# Which is not an enclosed space?

- a.** galley
- b.** engine room
- c.** steering gear compartment
- d.** hold
- e.** forecastle

**Which is not an enclosed space?**

**e. forecastle**