

U.S.C.G. Merchant Marine Exam
Master/Chief Mate Offshore Supply Vessels
Q201 Deck Safety
(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions.

1. To prevent the spread of fire by convection you should take which action?

- A. Shut off all electrical power
- B. Cool the bulkhead around the fire
- C. Close all openings to the area
- D. Remove combustibles from direct exposure

Correct answer: C

2. Distress signals may be _____.

- A. red flares
- B. smoke signals
- C. sound signals
- D. Any of the above

Correct answer: D

3. A seaman is reported missing in the morning and was last seen after coming off the mid-watch. Which type of turn would you use to return to the track-line steamed during the night?

- A. Anderson
- B. Racetrack
- C. Williamson
- D. 180° turn

Correct answer: C

4. Which is TRUE if passengers are on board when an abandon ship drill is carried out?

- A. The passengers should stay out of the way and do what they want
- B. The passengers should take part in the drill
- C. Passengers should go to their quarters during drills
- D. The passengers should just watch

Correct answer: B

5. Which formula can be used to calculate metacentric height?

- A. $KM + GM$
- B. $KM - GM$
- C. $KM - KG$
- D. $KB + BM$

Correct answer: C

6. When abandoning ship and jumping into the water from a substantial height without a life jacket, you should _____.
- A. jump feet first, covering your nose and mouth with one hand and grasping the opposing upper arm with the other
 - B. dive headfirst, using your hands to break the surface of the water
 - C. jump feet first, holding your knees to your chest
 - D. hold your arms firmly at your sides and jump feet first

Correct answer: A

7. In illustration D016SA below, what number indicates the frapping line?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: B

8. What is the objective of shoring a damaged bulkhead?
- A. To force the warped, bulged, or deformed sections back into place
 - B. To withstand subsequent additional damage
 - C. To support and hold the area in the damaged position
 - D. To make a watertight seal at the damaged area

Correct answer: C

9. What is the main advantage of a steady stream of water on a class "A" fire?
- A. It removes the oxygen
 - B. It protects the firefighting crew
 - C. It breaks up and cools the fire
 - D. It washes the fire away

Correct answer: C

10. What is the purpose of a check valve?
- A. Permits flow in one direction only
 - B. Regulates liquid flow
 - C. Passes air but not liquid
 - D. Passes liquid but not air

Correct answer: A

11. Your vessel is damaged and listing to port. The rolling period is long, and the vessel will occasionally assume a starboard list. Which action should you take FIRST?
- A. Transfer all possible movable weights from port to starboard
 - B. Fill an empty double bottom tank on the starboard side
 - C. Press up a slack centerline double bottom tank
 - D. Pump out ballast from the port and starboard double bottom tanks

Correct answer: C

12. How should the sea painter of a rescue boat be led?

- A. Forward and inboard of all obstructions
- B. To the foremost point on the vessel
- C. Forward and outboard of all obstructions
- D. Vertically up and down from the main deck

Correct answer: C

13. When is firefighting foam most effective?

- A. When it is kept saturated with low-velocity water fog
- B. As it mixes with the burning fuel oil
- C. When it completely covers the top of the burning liquid
- D. If it penetrates to the bottom of the fire

Correct answer: C

14. The gross weight of a fully charged CO₂ bottle in a fixed CO₂ system is 220 lbs. When the bottle is empty it weighs 120 lbs. What is the minimum acceptable gross weight of the CO₂ bottle before it should be recharged by the manufacturer?

- A. 200 lbs
- B. 205 lbs
- C. 210 lbs
- D. 220 lbs

Correct answer: C

15. A thrust bearing is designed to accomplish which action?

- A. To transmit the thrust of the propeller to the vessel
- B. To absorb the shock of wave pressure at the bow
- C. To transmit the thrust of the engine to the propeller
- D. To be placed between the engines and the foundation to absorb the vibration

Correct answer: A

16. By day, what is the signal meaning, "This is the best place to land"?

- A. A white star rocket
- B. A white smoke signal
- C. Vertical motion of a white flag or the arms
- D. Vertical motion of a red flag

Correct answer: C

17. How does bleeding from a vein appear?

- A. Bright red and slow
- B. Dark red and spurting
- C. Bright red and spurting
- D. Dark red and has a steady flow

Correct answer: D

18. The "Vessel Bridge-to-Bridge Radiotelephone Act" applies to which towboat?

- A. A 400 GT towboat anchored
- B. A 60-foot towboat pushing ahead
- C. A 90-foot towboat tied to the pier
- D. A 100 GT towboat, 24 feet in length

Correct answer: B

19. Which defines the function of a spark arrestor?

- A. Utilized to secure covers on ullage openings
- B. Prevents sparks from getting out of an engine's exhaust system
- C. Grounds static electricity reducing chance of explosion
- D. It keeps sparks from falling into an open tank

Correct answer: B

20. Overspeed of the diesel engine driving an electric generator could cause which situation to occur?

- A. Low exhaust temperatures
- B. A low voltage trip
- C. A reverse power trip
- D. Damage to the generator

Correct answer: D

21. If the situation arose where it became necessary to tow a disabled vessel, which statement is TRUE concerning the towing line?

- A. There should be a catenary so the line dips into the water.
- B. The towing line should be taut at all times between the vessels.
- C. The towing line between the two vessels should be clear of the water.
- D. None of the above.

Correct answer: A

22. Your vessel has been taking on water but now the breached hole has been repaired. Which effects can the flooding have on your vessel's GM?

- A. Flooding will always decrease GM
- B. Flooding will always increase GM
- C. Flooding will neither increase or decrease GM
- D. Flooding can either increase or decrease GM

Correct answer: D

23. The pillar shape that gives the greatest strength for the least weight is the _____.

- A. "I" Beam pillar
- B. Circular type pillar
- C. "H" Beam pillar
- D. Solid octagonal pillar

Correct answer: B

24. When compared to a high-expansion foam, a low-expansion foam will _____.

- A. be more heat resistant
- B. be lighter
- C. be dryer
- D. cling to vertical surfaces

Correct answer: A

25. What is the function of wearing rings found on some centrifugal pumps?

- A. Seal pump shaft against entry of air
- B. Dampen the turbulent discharge flow
- C. Isolate the outlet side from the inlet side
- D. Absorb erosion of high-velocity discharge stream

Correct answer: C

26. The flag hoist 62.2 would be sent as pennant 6, pennant 2 followed by what?

- A. Space, second substitute
- B. Answering pennant, third substitute
- C. Answering pennant, second substitute
- D. Answering pennant, first substitute

Correct answer: C

27. In the event of a fire, the doors to a stair tower must be closed to prevent the spread of fire by which method?

- A. Conduction
- B. Ventilation
- C. Radiation
- D. Convection

Correct answer: D

28. What is the thickness of a 30.6-pound plate?

- A. 3/8"
- B. 1/2"
- C. 3/4"
- D. 1"

Correct answer: C

29. Pitching is angular motion of the vessel about what axis?

- A. Transverse
- B. Centerline
- C. Vertical
- D. Longitudinal

Correct answer: A

30. Which term defines the most probable position of the object of a search at any given time?

- A. Reported position
- B. Incident position
- C. Datum position
- D. Dead-reckoning position

Correct answer: C

31. You wish to communicate information that the swell in your area is 8-10 feet in height and from the northeast. How would you describe this swell, as defined in the International Code of Signals?

- A. Confused
- B. Moderate
- C. High
- D. Rough

Correct answer: D

32. Which of the following is a requirement of the mechanical disengaging apparatus in a lifeboat?

- A. It must have an operation instruction placard
- B. It must be painted red
- C. The area surrounding the release lever shall be a contrasting light color
- D. All of the above

Correct answer: D

33. What is the best indication of the loading of a diesel engine?

- A. Exhaust gas temperature
- B. Oil temperature
- C. Fuel consumption
- D. Manifold pressure

Correct answer: A

34. When patching holes in the hull, how can pillows, bedding, and other soft materials be used?

- A. As strongbacks
- B. As gaskets
- C. As wedges
- D. As shores

Correct answer: B

35. All personnel on board a vessel should be familiar with the rescue boat's _____.

- A. boarding and operating procedure
- B. navigational systems
- C. fuel consumption rates
- D. maintenance schedules

Correct answer: A

36. Where do signs of racking stresses generally appear on the vessel?

- A. At the junction of the frames with the beams and floors
- B. At the thrust bearing of the main shaft
- C. On the garboard strake, at each side of the keel
- D. At the bow and stern shell frames and plating

Correct answer: A

37. An important step in fighting any electrical fire is to take which action?

- A. De-energize the circuit
- B. Apply water to extinguish the fire
- C. Stop the vessel
- D. Stop ventilation

Correct answer: A

38. Repairing damage to the hull at or above the waterline reduces which threat?

- A. Rapid capsizing of vessel
- B. Wind heel
- C. Free surface effects
- D. Continued progressive flooding

Correct answer: D

39. What is the proper stimulant for an unconscious person?

- A. Ammonia inhalant
- B. Coffee
- C. Whiskey and water
- D. Tea

Correct answer: A

40. What must be accurately determined to assess the potential for progressive flooding after a vessel has been damaged?

- A. The integrity of the watertight boundaries
- B. The operation of the machinery space bilge level alarms
- C. The capacity of the water sprinkler systems
- D. All of the above

Correct answer: A

41. The important initial stability parameter, GM, is which of the following?

- A. The height of the center of gravity above the keel
- B. The height of the metacenter above the keel
- C. The metacentric height
- D. The height of the center of buoyancy above the keel

Correct answer: C

42. What can you do if a person gets something in his or her eye and you see that it is not embedded?

- A. Get them to rub their eye until the object is gone
- B. Remove it with a piece of dry sterile cotton
- C. Remove it with a moist, cotton-tipped applicator
- D. Remove it with a match or toothpick

Correct answer: C

43. Which statement about the Williamson turn is FALSE?

- A. It requires the highest degree of shiphandling skills to accomplish.
- B. It returns the vessel to the original track-line on a reciprocal course.
- C. It is the slowest of the methods used in turning the vessel.
- D. It is the best turn to use when the victim is not in sight due to reduced visibility.

Correct answer: A

44. You are at sea and have received a General Emergency message announcing the outbreak of war in Europe. You are directed to comply with the instructions in NGA (NIMA) PUB 117, Chapter Eight. Which statement is TRUE?

- A. When over 200 miles from a port in the danger zone, you should not darken ship
- B. You should only enter a port in the danger zone during hours of darkness
- C. You should attempt to coordinate with the Shipping Control Team
- D. If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port

Correct answer: C

45. The vessel shown in illustration D025DG has broken down and you are going to take her in tow. The wind is on her starboard beam. Both vessels are making the same amount of leeway. Where should you position your vessel when you start running lines?

- A. A
- B. B
- C. C
- D. D

Correct answer: C

46. In general, how often are sanitary inspections of passenger and crew quarters made aboard passenger vessels in river service?

- A. Once each day
- B. Once each week
- C. Once each month
- D. Once each trip

Correct answer: C

47. Which is TRUE concerning drinking salt water?

- A. Saltwater prevents seasickness
- B. Saltwater protects against heat cramps
- C. Consuming saltwater will dehydrate you
- D. It is safe to drink if mixed with fresh water

Correct answer: C

48. Which term is used to describe the horizontal port or starboard movement of a vessel?

- A. Heave
- B. Yaw
- C. Surge
- D. Sway

Correct answer: D

49. When will the float-free emergency position indicating radio beacon be activated after abandoning ship?

- A. Immediately after floating free
- B. After about one hour when the salt water activates the battery
- C. Only when keyed by the radar of another vessel
- D. Only when daylight activates the photovoltaic cell

Correct answer: A

50. The shearing stresses on a ship's structure are usually greatest at which area?

- A. The bow
- B. The stern
- C. The ship's quarter-length points
- D. The midships section

Correct answer: C

51. What monitoring device best indicates the load being carried by a diesel engine?

- A. Lube oil pressure gauge
- B. Exhaust pyrometer
- C. Tachometer
- D. Jacket water temperature gauge

Correct answer: B

52. What is the most probable cause of reduced capacity in a reciprocating air compressor?

- A. Carbon on cylinder heads
- B. Leaking air valves
- C. Faulty unloader
- D. Plugged air cooler

Correct answer: B

53. What is the expected range of a VHF radio transmission from a vessel to a shore station?

- A. About 20 miles
- B. 50 - 100 miles
- C. 100 - 150 miles
- D. 150 - 200 miles

Correct answer: A

54. A situation has occurred where it becomes necessary for you to be towed. What action should be taken to prevent your vessel from yawing?

- A. Throw excess weight overboard
- B. Shift weight to the center of the boat
- C. Shift weight to the bow
- D. Shift weight to the stern

Correct answer: D

55. How are lifelines attached to a life float?

- A. Securely attached around the outside in bights no longer than three feet
- B. With an approved safety hook or shackle
- C. By splicing one end of the line around the apparatus
- D. By serving

Correct answer: A

56. All of the following are recognized distress signals under the Navigation Rules EXCEPT which signal?

- A. Red flares
- B. Orange-colored smoke
- C. A green star signal
- D. The repeated raising and lowering of outstretched arms

Correct answer: C

57. What is the primary use of antiseptics?

- A. To reduce inflammation
- B. To increase blood circulation
- C. To prevent infection
- D. To speed healing

Correct answer: C

58. In illustration D033DG below, what is a wooden deck installed on top of the plating lettered N known as?

- A. Furring
- B. Flooring
- C. Ceiling
- D. Spar decking

Correct answer: C

- 59.** If you are fighting a fire below the main deck of your vessel, which action is most important concerning the stability of the vessel?
- A. Shutting off electricity to damaged cables
 - B. Maneuvering the vessel so the fire is on the lee side
 - C. Pumping firefighting water overboard
 - D. Removing burned debris from the cargo hold

Correct answer: C

- 60.** Which statement is TRUE concerning distress signals in a lifeboat?
- A. Parachute flares, handheld flares and orange smoke signals are required in a lifeboat
 - B. Two hand-held smoke signals and two parachute flare are required in a lifeboat
 - C. If hand-held rocket-propelled parachute flares are provided, they are the only distress signals required in a lifeboat
 - D. A Very pistol with twelve flares is required in a lifeboat

Correct answer: A

- 61.** What is the minimum number of people required to safely handle a 1-1/2-inch fire hose?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: B

- 62.** Your vessel is damaged, listing to port and on occasion flopping to the same angle to starboard. It has a long, slow, sluggish roll around the angle of list. There is excessive trim by the stern with little freeboard aft. What action should you take FIRST to correct this situation?
- A. Press up any slack double bottom tanks forward of the tipping center, then fill the forepeak if empty.
 - B. Jettison any off-center topside weights to lower GM and correct the list.
 - C. Pump out any slack after double bottom tanks to reduce free surface and increase freeboard aft.
 - D. Pump out the after peak and fill the forepeak to change the trim.

Correct answer: A

- 63.** To increase the extent of flooding your vessel can suffer without sinking, you could take which action?
- A. Lower the center of gravity
 - B. Raise the center of gravity
 - C. Ballast the vessel
 - D. Increase reserve buoyancy

Correct answer: D

64. Aboard a vessel, what does dividing the sum of the longitudinal moments by the total weight yield?

- A. The righting moments
- B. The inclining moments
- C. The vertical moments
- D. The vessel's LCG

Correct answer: D

65. What is the most serious effect of oxygen retained in a diesel engine jacket water cooling system?

- A. The trapped oxygen causes corrosion
- B. The oxygen reduces the effectiveness of the coolant
- C. The oxygen accelerates formation of hydrogen peroxide deposits
- D. Forms air pockets which exclude coolant contact with hot surfaces

Correct answer: A

66. In illustration D033DG below, which letter indicates a butt?

- A. F
- B. J
- C. D
- D. E

Correct answer: C

67. What is Metacentric height a measure of?

- A. Stability through all angles
- B. Maximum righting arm
- C. Initial stability only
- D. Location of G above the keel

Correct answer: C

68. Most open lifeboats are equipped with which type of rudder?

- A. Balanced rudders
- B. Contraguide rudders
- C. Unbalanced rudders
- D. Straight rudders

Correct answer: C

69. You are releasing carbon dioxide gas (CO₂) into an engine compartment to extinguish a fire. In which situation will the CO₂ be most effective?

- A. The compartment is closed and airtight
- B. Air flow to the compartment is increased with blowers
- C. The compartment is closed and ventilators are opened
- D. The compartment is left open to the air

Correct answer: A

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Illustrations: 3

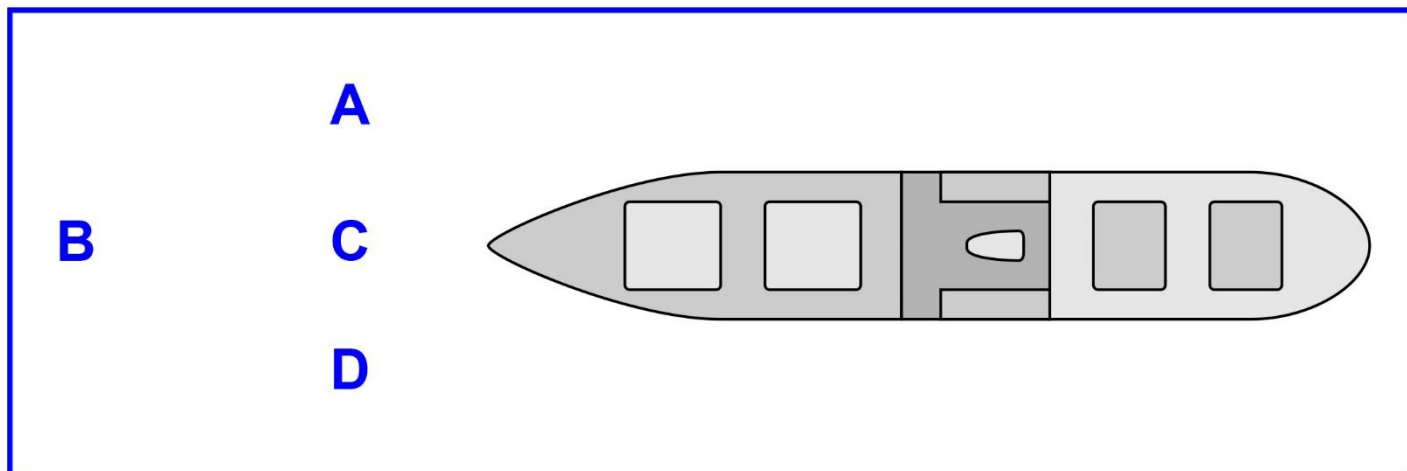
70. Jettisoning weight from topside _____.

- A. reduces free surface effect
- B. lowers the center of gravity
- C. raises the center of buoyancy
- D. returns the vessel to an even keel

Correct answer: B

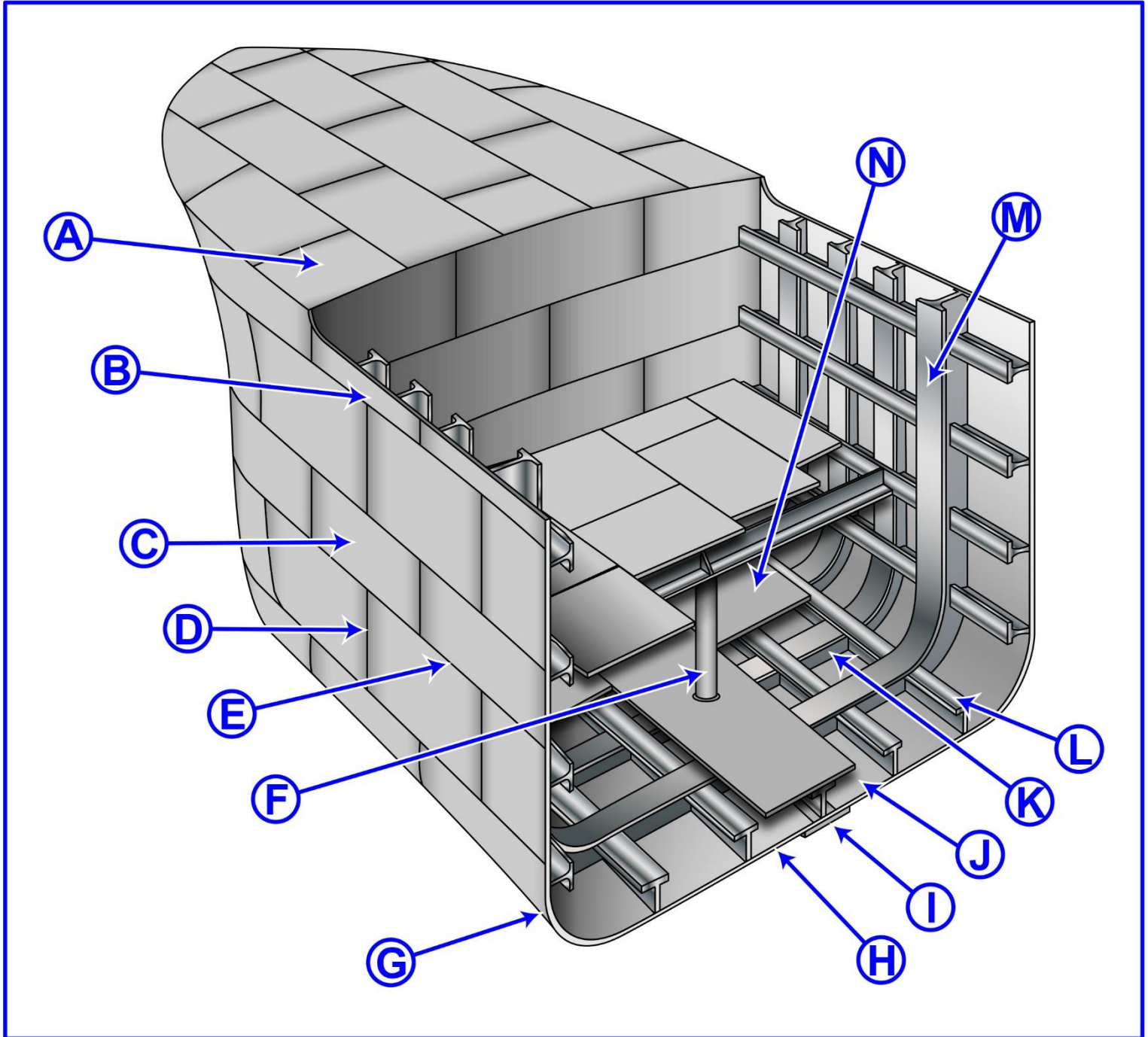


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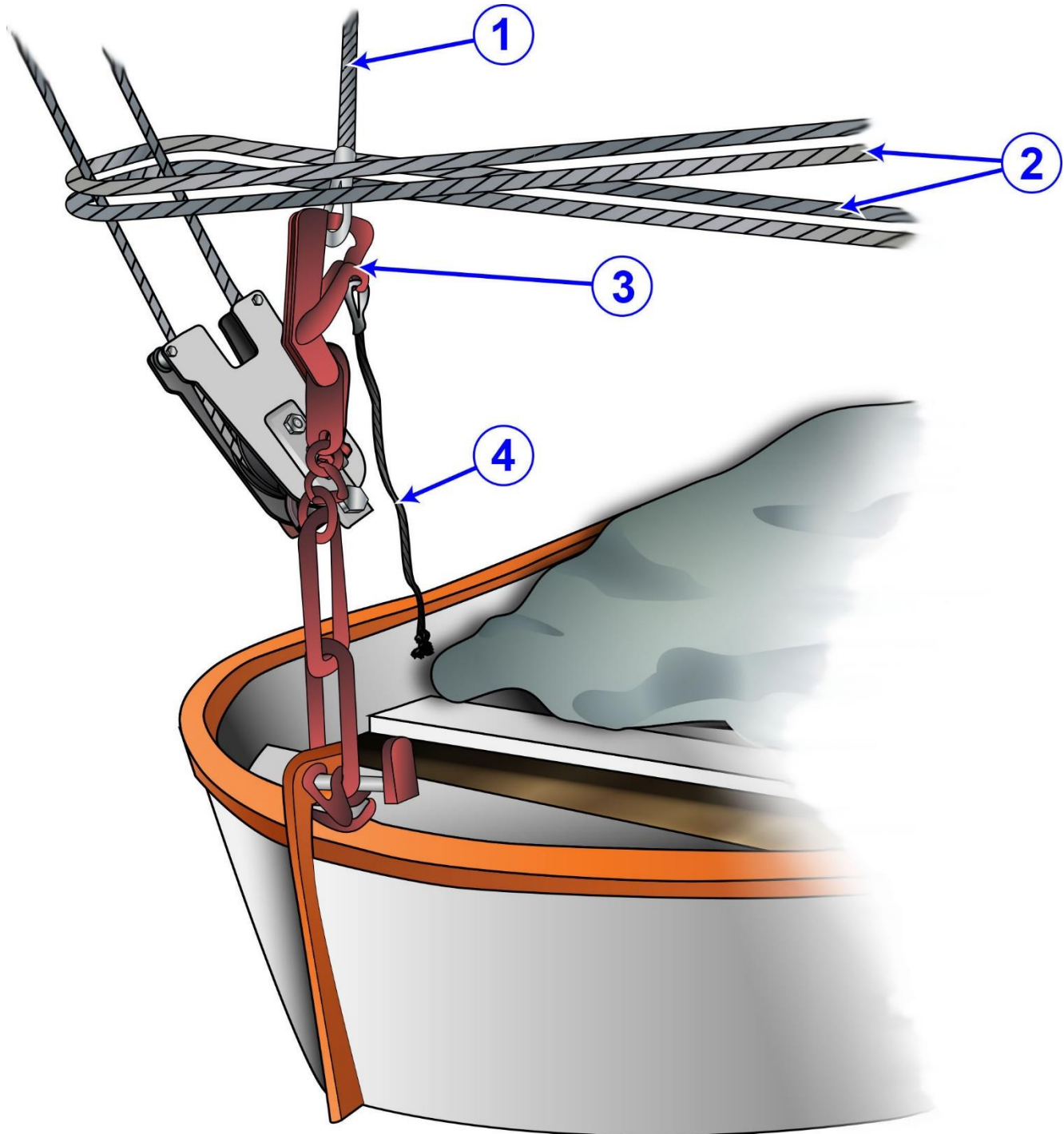
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