

National Marine Manufacturers Association
Compliance Specialist Exam
Steering Systems (2022 MY)
ABYC P-14 (7/20), P-17 (7/18), P-21 (7/17), P-22 (7/18)

1. Throttle and shift lever controls shall be installed to minimize accidental engagement during:
 - a. Attaching dock lines
 - b. Passenger mobility around the control
 - c. Egress/Ingress
 - d. All of the above

2. The mechanical steering cable shall withstand an axial cable load of _____.
 - a. 1,000 lbs.
 - b. 1,500 lbs.
 - c. 2,000 lbs.
 - d. 2,500 lbs

3. Neutral holding mechanisms are required when:
 - a. Single lever controls are installed on a flybridge where the controls cannot be shifted inadvertently upon entering and exiting the boat.
 - b. Single top mounted controls comply with P-14.5.6.
 - c. Single lever controls are installed on a boat with a single propulsion engine.
 - d. Propulsion engine utilizes a push button to start.

4. Wheel Dish is defined as:
 - a. The distance between the parallel planes formed by the aft rim surface and the forward hub surface of a wheel
 - b. The distance between the parallel planes formed by the inner and outer sections of the steering wheel
 - c. The distance along the axis of the steering shaft, from the helm to the outer most section of the steering wheel
 - d. The distance along the axis of the steering shaft, from the helm to the forward hub surface

5. Start-In-Gear Protection is required for:
 - a. all boats
 - b. powerboats over 115 pounds of thrust
 - c. sailboats and PWC's
 - d. boats with thrust limiting devices

6. The purpose of a two-cable system is:
 - a. remove most of the backlash from both cables
 - b. improve the boats controllability
 - c. allows adjustment so one cable is tension and the other is compression
 - d. all of the above

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7. An Axial Load Test requires:
 - a. A 100-pound force distributed over not more than 4-inches of the steering wheel rim, tangentially to the plane of the steering wheel rim for ten cycles at five seconds per loading.
 - b. A 100-pound force distributed over not more than 4-inches of the steering wheel rim, parallel to the plane of the steering wheel rim for ten cycles at five seconds per loading.
 - c. A 150-pound force distributed over not more than 4-inches of the steering wheel rim, tangentially to the plane of the steering wheel rim for ten cycles at five seconds per loading.
 - d. A 150-pound force distributed over not more than 4-inches of the steering wheel rim, in a direction parallel to the axis of the steering shaft for ten cycles at 5 seconds per loading.

8. What are the three different types of approved helm shafts?
 - a. Tapered spline shaft, Round Shaft, and Tapered square shaft
 - b. Tapered square shaft, Tapered round shaft, and spline shaft
 - c. Tapered round shaft, Square Shaft, and Tapered spline shaft
 - d. Rounded square shaft, Squared round shaft, and spline shaft

9. In a mechanical steering system, plain threaded jam nuts may be used to permit adjustments.
 - a. True
 - b. False

10. Hydraulic system components shall not be installed in areas where the operating temperatures exceeds:
 - a. 180° F
 - b. 170° F
 - c. 165° F
 - d. 160° F

11. Helm Displacement is described as:
 - a. The output volume of hydraulic fluid per helm revolution
 - b. The volume of the helm and all of its components
 - c. The ratio between the attack angle of the rudder versus helm revolutions
 - d. The flooded net volume of the cockpit minus the helm and any cockpit superstructure

12. The steering stops on an outboard engine shall:
 - a. be placed to provide 15 degrees of movement to each side of center
 - b. be based on manufacturer's recommendations
 - c. be placed to provide 30-degrees of movement to each side of center
 - d. be placed to provide 30-degrees of total movement

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13. When tested to the axial load test in P-22, there shall be no fracture of the steering wheel structure or permanent deformation in excess of ____ inch at the rim or spoke's handgrip such that the required loads cannot be achieved
- 1/8
 - 1/4
 - 1/2
 - 1
14. Boat mounted steering system cables shall be installed:
- with bends as small as practicable
 - with as few bends as possible
 - the bend radius shall be smaller than the manufactures recommendations
 - near hot components such as exhaust fittings
15. The clearance between the steering wheel and control levers shall be:
- at least 2-inches in all wheel and lever positions
 - at least 2 ½-inches in all wheel and level positions, single lever mounted controls only
 - at least 2-inches in all wheel and lever positions, side mounted controls only
 - at least 2 ½-inches in all wheel and lever positions