

# **National Marine Manufacturers Association**

## **Product Compliance Specialist Examination**

### **Visibility from the Helm (12/07)**

1. The purpose of the H-1 standard is to,
  - a. Insure operator has appropriate visibility under all conditions of heel and trim
  - b. Insure visibility during towing operations such as waterskiing & wake boarding
  - c. Minimize obstructions in the field of vision from the helm station(s)
  - d. Insure that the helm is appropriately labeled if visibility is obstructed in the standing and seating positions.
  
2. In order for H-1 to be effective,
  - a. Windshields must have a light transmission of not more than 70% as stated in H-3.6.2.2
  - b. Movable items such as convertible tops must be stowed
  - c. All sections of the standard must be adhered to so that the operator is not burdened by the rules of the road
  - d. The boat must be operated in a reasonable and prudent manner
  
3. The “Standing High Eye Position” is
  - a. Inspector’s eye position above the standing surface at the operator’s position;
  - b. 58 inches or 1.48 m above the standing surface at the operator’s position.
  - c. 68 inches plus 1.73 m above the standing surface at the operator’s position;
  - d. 68 inches or 1.73 m above the standing surface at the operator’s position.
  
4. The standard H-1 (7/06) is applicable to:
  - a. All boats.
  - b. All boats powered except canoes and kayaks;
  - c. All boats powered by machinery except multi-hull boats;
  - d. All boats powered by machinery except sailboats;
  
5. The “Standing Low Eye Position” is
  - a. The inspector’s eye position above the standing surface at the operator’s position;
  - b. 58 inches plus 1.48 m above the standing surface at the operator’s position;
  - c. 58 inches or 1.48 m  $\pm$  25 % above the standing surface at the operator’s position.
  - d. 58 inches or 1.48 m above the standing surface at the operator’s position;

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6. Which of the following statements is true?
  - a. Directly in front of the operator a clear 30° sector of visibility shall be provided that extends throughout the vertical range of visibility described in H-1.7.1 and extends horizontally from straight ahead at least 15° both to the left and to the right of the eye positions.
  - b. Directly in front of the operator a clear 30° sector of visibility shall be provided that extends throughout the vertical range of visibility described in H-1.8.1 and extends horizontally from straight ahead at least 15° both to the left and to the right of the eye positions.
  - c. Directly in front of the operator a clear 30° sector of visibility shall be provided that extends throughout the horizontal range of visibility described in H-1.8.1 and extends horizontally from straight ahead at least 15° both to the left and to the right of the eye positions.
  - d. Directly in front of the operator a clear 30° sector of visibility shall be provided that extends throughout the horizontal range of visibility described in H-1.7.1 and extends horizontally from straight ahead at least 15° both to the left and to the right of the eye positions.
  
7. The “Seated Low Eye Position” is
  - a. 27 inches or 0.69 m above the surface of the compressed seat.
  - b. 27 inches or 0.69 m above the surface of the uncompressed seat;
  - c. 33 inches or 0.69 m above the surface of the uncompressed seat;
  - d. 33 inches or 0.69 m above the surface of the compressed seat
  
8. The “Seated High Eye Position” is
  - a. 27 inches or 0.69 m above the surface of the compressed seat;
  - b. 27 inches or 0.69 m above the surface of the uncompressed seat;
  - c. 33 inches or 0.84 m above the surface of the compressed seat;
  - d. 33 inches or 0.84 m above the surface of the uncompressed seat.
  
9. Visibility requirements must be met during the boats transition from displacement to planning mode.
  - a. True
  - b. False
  
10. If the aft sector of visibility is obstructed by permanent boat structure, a closed circuit video camera with a display at the helm may be used to comply with the visibility requirements.
  - a. True
  - b. False

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11. The “Ready-for-use Condition” is
  - a. Craft fully equipped for the intended use, including fuel and water tanks filled plus the weights for outboard engines and batteries at the highest rating the craft is intended to be equipped and operated;
  - b. Craft fully equipped for the intended use, including fuel and water tanks filled to 95 % of capacity minus the weights for outboard engines and batteries at the highest rating the craft is intended to be equipped and operated;
  - c. Craft fully equipped for the intended use, including fuel and water tanks filled to 90 % percent of capacity plus the weights for outboard engines and batteries at the highest rating the craft is intended to be equipped and operated;
  - d. Craft fully equipped for the intended use, including fuel tanks only filled to 90% of capacity plus the weights for outboard engines and batteries at the highest rating the craft is intended to be equipped and operated.
  
12. Which one of the following statements is true?
  - a. All helm stations shall comply with H-1;
  - b. Only the lowest helm station shall comply with H-1;
  - c. At least one helm station shall comply with H-1.
  - d. Only the highest helm station shall comply with H-1;
  
13. Which one of the following statements is true?
  - a. Helm stations that do not comply with the measurement requirements of H-1 must be redesigned;
  - b. Helm stations that do not comply with the measurement requirements of H-1 must display a warning label
  - c. Helm stations that do not comply with the measurement requirements of H-1 must state the nature of the obstruction in the owner’s manual.
  - d. Helm stations that do comply with the measurement requirements of H-1 must display a visibility warning label
  
14. Controls for steering, shift, throttle and trim must be positioned so that during use, operator hand contact can be maintained;
  - a. With small movement of the operator’s eye below the eye position(s) for which the boat is designed;
  - b. Without movement of the operator’s eye below the standing eye position;
  - c. Without movement of the operator’s eye below the seating eye position.
  - d. Without movement of the operator’s eye below the eye position(s) for which the boat is designed;

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15. The “Forward Sector of Visibility” is
  - a. the forward horizontal arc measured between 90° to port from straight ahead and 112.5° to starboard from straight ahead;
  - b. the forward horizontal arc measured between 90° to starboard from straight ahead and 112.5° to port from straight ahead;
  - c. the entire range of visibility including the aft sector;
  - d. the forward horizontal arc measured between 97.5° to port from straight ahead and 60° to starboard from straight ahead.
  
16. If a boat is designed to be operated from both a standing and seated position, controls for steering, shift, throttle and trim must be positioned so that during use, operator hand contact can be maintained in;
  - a. Each position.
  - b. At least one position;
  - c. The more comfortable position;
  - d. The seated position;
  
17. Outside the clear sector of visibility throughout the horizontal arc measured from 90° to port and 112.5° to starboard
  - a. Obstructions shall be kept to a minimum such that movements of  $\pm 5$  inch of the operator’s head will permit unobstructed visibility;
  - b. Obstructions shall be kept to a minimum such that movements of 5 inch of the operator’s head to the port side will permit unobstructed visibility.
  - c. Obstructions shall be kept to a minimum such that movements of 5 inch of the operator’s head to the starboard side will permit unobstructed visibility.
  - d. Obstructions shall be kept to a minimum such that normal movements of the operator’s head will permit unobstructed visibility;
  
18. The visibility requirements in sections H-1.8.1 and H-1.8.2 shall be met
  - a. at all vessel speeds;
  - b. only at  $\frac{1}{4}$  of full speed;
  - c. only at  $\frac{1}{2}$  of full speed;
  - d. only at full throttle.

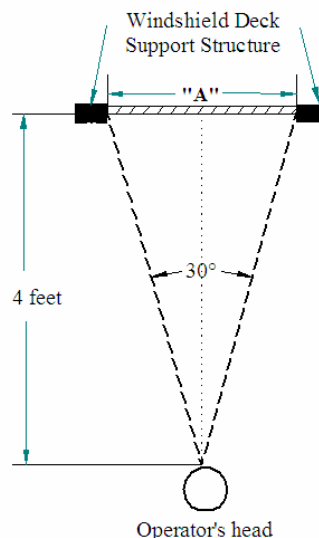
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19. Compliance technician A states that the horizontal clear sector of visibility requirement of 30 degrees may be met with normal movement of the operator's head. Compliance technician B states that the operators head is limited to 1 ½ inch movement. Who is right?
- Technician A
  - Technician B
  - Both
  - Neither
20. Trim tabs, if offered as optional equipment, may be used to meet the visibility requirements as set forth in H-1.
- True
  - False
21. The "Aft Sector of Visibility" is
- The aft horizontal arc measured between 90° to starboard from straight astern and 67.5° to port from straight astern;
  - The aft horizontal arc measured between 90° to port from straight astern and 67.5° to starboard from straight astern.
  - The aft horizontal arc measured between 97.5° to port from straight astern and 60° to starboard from straight astern;
  - The aft horizontal arc measured between 90° to port from straight astern and 67.5° to starboard from straight astern if the steering wheel is mounted amidships;
22. In the following diagram of the horizontal clear sector of visibility, what is the minimum distance between the vertical windshield support deck structure, "A", if the distance from the operator is 4 feet?

- 22 ¼ inches
- 23 ½ inches
- 24 ¾ inches
- 25 ¾ inches



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23. If permanent boat obstructions to vision exist in the aft horizontal sector of visibility, unobstructed visibility must be provided
- Without movement of the operator's head while maintaining control of the boat or by mirrors or other means;
  - By normal movement of the operator's head while maintaining control of the boat or mirrors or other means;
  - By normal movement of the operator's body while maintaining control of the boat without any mirrors or other means;
  - By posting a lookout as required by the USCG Navigation Rules.
24. If readily removable camper top obstructs the vision of the operator
- the helm station must be labeled,
  - the removable top must be labeled
  - the owner's manual must warn the operator
  - the operator is expected to post a lookout as required by the USCG Navigation Rules.
25. When checking the visibility of a 39 ft boat, a target must be visible from the helm;
- 156 ft from the operator
  - 164 ft from the bow of the boat
  - More than 4 boat lengths from the operator
  - 156 ft from the bow of the boat