



ABYC P-22 July 2018

**Machinery Division Standard
Control Systems Project Technical
Committee**

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

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ABYC P-22

STEERING WHEELS



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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All contact regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at comments@abycinc.org.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

REQUEST FOR INTERPRETATIONS

Upon written request, the Control Systems PTC will render an interpretation of any requirement of the Standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The Committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.

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P-22 STEERING WHEELS

Based on ABYC's assessment of the state of existing technology and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all boats, associated equipment, and systems manufactured and/or installed after July 31, 2019.

22.1 PURPOSE

This standard is a guide for the design, construction, and installation of steering wheels for marine applications.

22.2 SCOPE

This standard applies to steering wheels up to and including 24 in (61 cm) in diameter used with outboard engines, inboards, sterndrives, and water jet drives.

22.3 REFERENCES

The following references form a part of this standard. Unless otherwise noted the latest version of the referenced standards shall apply.

22.3.1 ABYC - American Boat & Yacht Council, Inc, 613 Third St, Suite 10, Annapolis, MD 21403. Phone: (410) 990-4460. Fax: (410) 990-4466. Website: www.abycinc.org

22.4 DEFINITIONS

For the purposes of this standard, the following definitions apply.

22.4.1 Steering Helm - a mechanism, exclusive of a steering wheel or other means for manual application of controlling force, by which controlling force is fed into a boat steering system cable or other force transmission means.

22.4.2 Minimum Retained System Performance - system capability after test(s) such that at least 90% of the engine steering arm travel normally available to each side of the mid-position may be attained by exertion of no more than 20 foot-pounds (27 Nm) of torque at the steering helm through the wheel, or other normal control.

NOTE: This criteria does not define steering system performance while a boat is underway, but is intended to provide qualitative limits for design and testing purposes.

22.4.3 Wheel Diameter - the diameter of the circle formed by the outermost sections of the wheel.

22.4.4 Wheel Dish - the distance between the two parallel planes formed by the aft rim surface and the forward hub surface of a wheel (see [FIGURE 1](#)).

22.5 GENERAL REQUIREMENTS

22.5.1 Steering wheels shall be permanently marked by their manufacturer with wheel diameter and wheel dish measurements (see [FIGURE 1](#)).

22.5.2 Steering wheels and steering helm shafts shall be selected to fit each other.

NOTE: Current fit configurations are shown in [FIGURE 2](#).

22.6 STEERING WHEEL TESTS

22.6.1 All testing shall be preceded by thermal conditioning.

22.6.1.1 Steering wheels shall be subjected to three cycles of thermal conditioning before mechanical tests are performed. One cycle of thermal conditioning is defined as;

22.6.1.1.1 three hours at $70 \pm 3^{\circ}\text{F}$ ($21 \pm 2^{\circ}\text{C}$), followed by