



Setting Standards for Safer Boating

ABYC P-21 July, 2012

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.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the Standards and Technical Information Reports.

ABYC P-21

MANUAL HYDRAULIC STEERING SYSTEMS



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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-21 MANUAL HYDRAULIC STEERING SYSTEMS

Based on ABYC's assessment of the 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 after July 31, 2013.

21.1 PURPOSE

This standard is a guide for the design, construction, and installation for remote manual hydraulic steering systems, and their major components.

21.2 SCOPE

This standard applies to engine mounted and boat mounted remote manual hydraulic steering systems used with single and twin engine installations of outboard engines over 20 horsepower (14.9 kW) per outboard engine, inboard, sterndrive, and water jet drives.

EXCEPTION: *Devices covered under [ABYC H-30, Hydraulic Systems](#).*

NOTE: *In all steering systems, the hydraulic portions of the system must comply with relevant sections of this standard.*

21.3 REFERENCES

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

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

[ABYC H-5, Boat Load Capacity](#)

[ABYC H-30, Hydraulic Systems](#)

[ABYC P-17, Mechanical Steering Systems](#)

[ABYC P-22, Steering Wheels](#)

[ABYC S-12, Outboard Engine, Transom, and Engine Well Dimensions](#)

21.3.1.2 CFR - Code of Federal Regulations and other government publications. May be obtained from the Superintendent of Documents, United States Government Information, PO Box 371954, Pittsburgh, PA 15250-7954. Phone: (202) 512-1800. Fax: (202) 512-2104. Website: www.access.gpo.gov An excerpted edition of the CFR is also available from ABYC, Inc.

33 CFR 183

21.3.1.3 SAE - Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (724) 776-4970. Fax: (724) 776-0790. Website: www.sae.org

SAE J517 JUN95, *Hydraulic Hose*

SAE J1047 JUN90, *Tubing - Motor Vehicle Brake System Hydraulic.*

SAE J1273 OCT96, *Selection, Installation, and Maintenance of Hose and Hose Assemblies*

21.4 DEFINITIONS

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

21.4.1 Boat mounted steering system - a steering system in which the reactionary forces of the output hydraulic steering device are resisted by the boat.

21.4.2 Burst pressure - the pressure at which the system exceeds the ultimate strength of the weakest hydraulic component resulting in a release of hydraulic fluid.