ABYC P-6 JULY, 2016

Machinery Division Standard

Engine and Powertrain 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ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn.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-6

PROPELLER SHAFTING SYSTEMS

ENGINE AND POWERTRAIN PROJECT TECHNICAL COMMITTEE

John McKnight, Chairman
Richard Waggoner, Vice Chairman

Glenn Anderson	*Eric Johnson*	*David Marlow*
Kevin Bedsworth	*Richard Kolb*	*Robert Newsome*

This list represents the membership at the time the Committee was balloted.

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 Engine and Powertrain 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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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, 2017.

6.1 *PURPOSE*

This standard is a guide for the design, construction and materials for propeller shafts and struts, and the installation of shaft bearings, stern bearings, struts, shaft seals, shaft logs, shaft couplings, and propellers.

6.2 *SCOPE*

This standard applies to all boats driven by propeller shafting systems that penetrate the hull.

NOTE: This standard incorporates those dimensional standards of the Society of Automotive Engineers (SAE) that apply to propeller shaft couplings and ends used on propeller shafts that penetrate the hull.

6.3 *REFERENCES*

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

6.3.1.1 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.

ABYC E-2, *Cathodic Protection*

6.3.1.2 ASTM International – American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Phone: (610) 832-9585. Fax: (610) 832-9585. Web site: www.astm.org.

ASTM Designation E8, *Tentative Methods of Tension Testing of Metallic Materials*

6.3.1.3 SAE - Society of Automotive Engineers - 400 Commonwealth Drive, Warrendale, PA 15096-0001. Phone: (724) 776-4841. Fax: (724) 776-5760. Website: www.sae.org.

SAE J755, *Marine Propeller Shaft Ends and Hubs*

6.4 *DEFINITIONS*

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

6.4.1 Design coefficient - a constant by which a variable is multiplied.

6.4.2 Shaft bearing spacing - the relative distance between the bearings supporting the propeller shaft as measured center to center.

6.4.3 Shaft seal - a device placed around a shaft at the point of entry into the hull to minimize the flow of water into the hull while permitting the shaft to rotate about its own axis.

6.4.4 Yield strength in torsion -

6.4.4.1 for copper base alloys, shall be one-half the minimum tensile yield strength determined at 0.5% offset under load by American Society for Testing Materials International (ASTM International) Designation E8, *Tentative Methods of Tension Testing of Metallic Materials*.

6.4.4.2 for nickel and steel alloys, shall be two-thirds the minimum tensile yield strength determined at 0.2% offset by ASTM International Designation E8, *Tentative Methods of Tension Testing of Metallic Materials*.