ABYC EDU-1 December 2021

Product Interface Division Standard

On-Water Education 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ABYC reviews each standard at least every five years, at which time it may be reaffirmed, revised, or withdrawn.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 EDU-1

ON-WATER RECREATIONAL BOATING SKILLS – POWER

Origin and Development

EDU-1, *On-Water Recreational Boating Skills – Power,* was first published in 2015 as a collaboration between ABYC and US Sailing as *On-Water Power Standards*. In 2018 the standard was adopted in full by ABYC. The 2021 version is the work of the On-Water Education Project Technical Committee.

On-Water Education Project Technical Committee

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

Pete Chisholm, *Chair*

Charlie Arms	Rick Franke	Robin Pope
Pam Dillon	Kit Klemchusky	Karen Prioleau
K Brian Dorval	Timmy Larr	Jeff Riecks
Peter Durant	John Malatak	Bruce Rowe

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, which is the result of extended and careful consideration of available knowledge and experience on the subject, was developed under procedures accredited as meeting the criteria for American National Standards and is intended to provide minimum performance requirements. 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.

ABYC's Project Technical Committee (PTC) meetings are open to the public. All inquiries 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" or "endorse" any item, construction, or proprietary device.

Request for Interpretations

Upon written request the On-Water Education 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 that might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the committee for reinterpretation.

Summary of Revisions

This list indicates revisions to the standard when compared with the previously published version. It is not intended to be used independently of the standard. It should be used for informational purposes and as a guide to the official requirements contained in this standard. It is the responsibility of the user to read and understand the complete standard.

The main changes in this revision of EDU-1, *On-Water Recreational Boating Skills – Power* as compared with the previous edition dated 2015, are:

- Title was changed
- Scope and Purpose were combined
- Units of Measure section was added

TABLE OF CONTENTS

EDU-1 ON-WATER RECREATIONAL BOATING SKILLS – POWER

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 no later than December 31, 2022.

FOREWORD

This consensus-based standard is designed to support course providers and raise the overall level of quality, availability, and consistency of on-water, skills-based instruction in entry-level recreational powerboat operation. It functions within a national system of standards for recreational boat operation. This standard (ABYC EDU-1, *On-Water Recreational Boating Skills – Power*) is designed to help course providers: a) determine what skills to include in an on-water entry-level course curriculum, and b) develop student assessment approaches for determining successful completion of entry-level courses or auditing courses.

Course providers who want to design, deliver, or evaluate an on-water course aimed at developing the skills identified in this standard should use ABYC EDU-4*, On-Water Instruction Standard.* EDU-4 defines the elements of the instructional approach and will assist education providers in ensuring that their courses will produce students who can perform the skills identified in EDU-1. Education providers are also encouraged to use the technical support documents (TSDs) developed by the US Sailing Association that accompany EDU-1 and EDU-4 to support the design and implementation of on-water entry-level instruction.

In addition, it is recommended that course providers use NASBLA 103-2016: *Basic Boating Knowledge - Power* (or most current equivalent) and its accompanying technical report to align knowledge and on-water skills-based course content. NASBLA 103-2016 defines the fundamental knowledge elements (e.g., navigation rules, aids to navigation, required equipment, trip planning and preparation, safe boat operation, emergency preparedness, etc) referred to in EDU-1 that entry-level recreational powerboat boat operators must possess as an integral part of safe boat operation.

The standard is organized as follows:

- Individual skills are organized within eight boat operations for ease of reference. Each skill can be applied to other operations.
- Each skill is described in two parts, following a leading stem phrase *"The operator is able to...".*
- The first part (Part A) is the skill, and the second part (Part B) is the condition, or 'proficiency,' associated with the successful performance of that skill.
- Numerical identifiers assigned to each skill are for ease of reference only, and do not imply any sequential process for learning or performance, or that the skill only applies to that boat operation.

SCOPE

This standard defines the entry-level skills students are able to demonstrate upon successful completion of on-water entry-level courses of instruction in recreational powerboat operation.

The skills are intended to apply to powerboats less than 26 ft under the following conditions:

- wind conditions less than 10 knots;
- wave height of one foot or less;
- daytime, with no restricted visibility or threatening weather; and
- aboard a seaworthy vessel properly prepared, adequately equipped, and registered.

For recreational boat operations where the boat is underway, individual skills are to be accomplished in accordance with any aids to navigation, navigational rules, and any regulations applicable to the location in which the skill is being executed.

UNITS OF MEASURE

*Values stated without parentheses a*re the requirement. Values in parentheses are explanatory or approximate.

REFERENCES

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

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 EDU-4, *On-Water Instruction Standard*

NASBLA - National Association of State Boating Law Administrators, 1020 Monarch Street, Suite 200, Lexington, KY 40513. Phone: (859) 225-9487. Website: www.nasbla.org

NASBLA 103-2016*: Basic Boating Knowledge – Power*
ESP TR 103-2018: *Technical Report – Basic Boating Knowledge - Power*

US Sailing Association, 1 Roger Williams University Way, Bristol, RI 02809. Phone: 1-800-877-2451. Website: https://www.usnows.org/assess-and-update, https://www.ussailing.org/

Technical Support Document: *Using American National Standards to Design and Deliver On-Water, Skills-Based Instruction for Safer Boating - Technical Support Document for the Instructional Approach Standard*

Technical Support Document: Using the Powerboating Skills American National Standard for On-Water, Skills-based Instruction for Safer Boating - Technical Support Document for the Powerboating Skills ANS

DEFINITIONS

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

Beginner - a novice who has begun a course of instruction or is learning the fundamentals.

Cruising Speed - the speed at which the boat is operating for optimum performance, safety, and efficiency. The actual speed is dependent upon the design of the hull. Speed for a particular boat, usually below the maximum, that is comfortable and economical and not necessarily at wide open throttle.

NOTE: Three quarter throttle often provides an acceptable balance of speed and fuel efficiency.

Entry-Level - the proficiency reached by a person who has successfully completed an appropriate amount of beginner instruction, or has achieved a sufficient level of experience, to be ready to pursue (or 'enter' safely into) recreational boating.

Idle Speed - the speed of the boat through the water when continuously in gear at the lowest revolutions per minute (RPM) possible.

Minimum Control Speed - the slowest speed at which an operator can effectively control the heading of the boat using an intermittent application of power, steerage, and headway.

On-Water Instruction - a course or program of instruction that is boat-based and on the water for skills development and assessment. Instruction takes place primarily in the natural setting of the boat with experiential/active learning as the primary method of delivery used by instructors.

Passenger - any person on board, excluding the operator.

Planing Speed - on hulls capable of planing, the speed at minimum RPM needed for the boat to remain on plane.

Proficiency - a description of the behaviors and actions that demonstrate the level of competence, accomplishment, or skill in operating a recreational boat.

Skill - the learned capacity, aptitude, or ability to do something.

Underway - when a boat is not at anchor or made fast to the shore, or aground.

1 *OPERATION #1: PREPARE TO DEPART*

The operator is able to:

1.1 **A: Put on a life jacket …** B: ensuring it is serviceable, fits properly, and is appropriate for the boat/activity.

1.2 **A: Confirm that all others on the boat put on their life jacket …** B: ensuring the life jackets are serviceable, fit properly, and are appropriate for the boat/activity.

1.3 **A: Inspect boat systems and safety equipment …** B: by completing a predeparture checklist noting legally required (state, federal) equipment and manufacturer recommendations appropriate for the intended trip and forecasted weather; identifying mooring/towing/anchoring points.

1.4 **A: Determine whether conditions are favorable for the length/time of the trip …** B: by obtaining weather conditions and forecasts, and evaluating weather, hazards to navigation, and other environmental factors.

1.5 **A: Board the boat …** B: by using three points of contact and distributing persons/gear while maintaining stability.

1.6 **A: Prepare the boat for departure …** B: by readying equipment (e.g., secured, appropriately balanced load, etc) and passengers (e.g., safety equipment, safety briefing, plan, etc) for intended departure.

1.7 **A: Start the engine …** B: safely and ensuring it is running properly and utilizes the emergency engine cutoff switch, if equipped, in accordance with the manufacturer's instructions.

2 *OPERATION #2: LEAVE A DEPARTURE POINT*

NOTE: Departure point may be a dock, slip, mooring, ramp, shoreline, etc.

The operator is able to:

2.1 **A: Check for a clear departure …** B: by using a 360° scan to confirm a clear path of departure with no conflicts with the boat's intended actions and with boats/activities in the vicinity and ensuring that departure is not a hazard for others.

2.2 **A: Get underway …** B: by ensuring the emergency engine cutoff switch device is attached to the operator (if applicable) and using shift, throttle, and steering, giving consideration to the departure point, wind, and current, while properly managing lines.

3 *OPERATION #3: MANEUVER IN CLOSE QUARTERS*

The operator is able to:

3.1 **A: Turn the boat …** B: by safely executing a pivot turn of at least 180° within a space no greater than two boat lengths.

3.2 **A: Hold the position of the boat …** B: near an object in the water for at least one minute within two boat lengths.

3.3 **A: Maintain directional control at minimum control speed …** B: while keeping the boat on a predetermined course for a distance of at least five boat lengths.

3.4 **A: Bring the boat to a complete stop from a forward idle speed …** B: within one boat length.

3.5 **A: Back the boat …** B: in a predetermined direction for five boat lengths.

4 *OPERATION #4: OPERATE IN OPEN WATER*

The operator is able to:

4.1 **A: Trim the boat …** B: while underway by adjusting the position of persons/gear and engine/drive trim or trim tabs.

4.2 **A: Turn the boat at planing or cruising speed …** B: by assuming a new heading 45° to port followed immediately by a turn 45° to starboard using appropriate throttle control.

NOTE: This skill is intended to maneuver around an object in the water.

4.3 **A: Steer a straight course …** B: at planing or cruising speed in a predetermined direction for 50 boat lengths.

4.4 **A: From idle speed, throttle up to planing or cruising speed, and return to idle speed …** B: smoothly and with consideration of passengers and gear.

4.5 **A: Stop the boat …** B: from planing or cruising speed to within five boat lengths ensuring the wake does not overtake the stern and with consideration of passengers and gear.

4.6 **A: Make course alteration …** B: by smoothly changing direction 45° and assuming the new heading.

4.7 **A: Cross waves or wakes …** B: by using an appropriate angle of approach and controlling boat speed for the given wake/wave size and frequency.

5 *OPERATION #5: ARRIVE AT DESTINATION – MAKE THE FIRST CONTACT*

NOTE: Destination may be a dock, slip, mooring, ramp, shoreline, etc.

The operator is able to:

5.1 **A: Prepare the boat for arrival …** B: by readying lines, equipment, and passengers for intended arrival maneuver.

5.2 **A: Check for a clear approach …** B: by confirming there are no conflicts between the boat's intended actions and other boats and activities in the vicinity.

5.3 **A: Bring the boat to a predetermined point …** B: by using a stopping procedure; giving consideration to the type of destination, wind, current, and boat traffic; and coming to a full, safe stop within 12 in (0.3 m) of the destination point.

6 *OPERATION #6: SECURE THE BOAT - PREPARE TO LEAVE THE BOAT UNATTENDED*

The operator is able to:

6.1 **A: Secure the boat at the destination …** B: by using appropriate knots and lines; anticipating winds, currents, and tides.

6.2 **A: Prepare the boat to be left unattended …** B: by checking and/or securing systems and equipment.

6.3 **A: Depart the boat …** B: by disembarking using three points of contact.

7 *OPERATION #7: PERFORM GENERAL SAFETY OPERATING PROCEDURES*

The operator is able to:

7.1 **A: Maintain a proper lookout during all operations …** B: by demonstrating frequent 360° visual checks and identifying potential hazards.

7.2 **A: Avoid collisions …** B: by maintaining a proper lookout, assessing potential hazardous situations, and taking early and decisive action (e.g., maneuvers needed for the crossing, meeting head-on, overtaking situations, and objects/persons in the water, etc).

8 *OPERATION #8: PERFORM EMERGENCY PROCEDURES/MANEUVERS*

The operator is able to:

8.1 **A: Return to man overboard …** B: within 10 ft (3 m) and in less than one minute.

8.2 **A: Make physical contact with and secure man overboard …** B: by taking action without injury to the person.

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