



Designation: F2460 – 19

Standard Practice for Special Requirements for Bumper Boats¹

This standard is issued under the fixed designation F2460; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice establishes criteria for the design, manufacture, and operations of bumper boats. These are boats used to bump into each other intentionally as directed by drivers as a form of entertainment. Boats are fitted with an inflatable or impact attenuating device to allow for such bumping.

1.2 This practice follows Practices F1193 and F770 as the basic level of safety for bumper boats. These practices shall be followed for all bumper boats under this practice. This practice shall include all modifications, improvements, and deviations to design, quality, manufacture, construction, ownership, operation, inspection, and maintenance of a bumper boat

1.3 This practice does not apply to personal watercraft, human powered watercraft, or watercraft used for general purposes by private owners.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

F770 Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices

F1159 Practice for Design of Amusement Rides and Devices

¹ This practice is under the jurisdiction of ASTM Committee F24 on Amusement Rides and Devices and is the direct responsibility of Subcommittee F24.60 on Special Rides/Attractions.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

that are Outside the Purview of Other F24 Design Standards

F1193 Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices

2.2 *NFPA Standards:*³

NFPA 10-2002 Standard for Portable fire extinguishers

2.3 *SAE Standards:*⁴

SAE J1171 External Ignition Protection of Marine Electrical Devices

3. Significance and Use

3.1 The purpose of this practice is to delineate information and to establish procedures for the operation of a bumper boat amusement ride.

3.2 The device is a single craft, unattached to other craft or common frame system. It is non-human powered without connection to a common energy source. It is driver controlled with respect to acceleration, speed, and steering.

4. Design Requirements

4.1 Throttle/power controls shall return automatically to stop or slow speed when released.

4.2 All battery powered units will provide adequate ventilation to battery compartment.

4.2.1 All battery-powered units will require an automatic circuit protection device that will isolate the battery pack from power and charging systems in the event of a short circuit or current overload, or both. Such a device will meet SAE J1171-200406 external ignition protection requirements.

4.3 Any moving drive component (that is, propellers, impellers) must be guarded on all sides, whenever ride is in operation. Openings of the guard shall be no larger in diameter or width than $\frac{5}{8}$ in. (16 mm).

4.4 Throttle/power controls shall be located in such a manner as to prevent accidental activation during loading or unloading of boat.

³ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁴ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001, <http://www.sae.org>.