



Standard Practice for Special Requirements for Bumper Boats¹

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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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

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

F853 Practice for Maintenance Procedures for Amusement Rides and Devices

F1159 Practice for Design and Manufacture of Patron Directed, Artificial Climbing Walls, Dry Slide, Coin Operated and Purposeful Water Immersion Amusement Rides and Devices and Air-Supported Structures

F1193 Practice for Quality, Manufacture, and Construction

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.

of Amusement Rides and Devices

2.2 NFPA Standards:³

National Fire and Protection Association Standards

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 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.

5. Quality, Manufacture, and Construction Requirements

5.1 Quality, manufacture, and construction shall be in accordance with in Practices **F1193** and **F1159**.

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>.

6. Ownership and Operation Requirements

6.1 Ownership and operation requirements for this practice are outlined in Practice **F770**. The items below are requirements in addition to Practice **F770**.

6.2 Bumper boats may be equipped with heat shields and guards that must be in place and in proper working condition whenever ride is in operation.

6.3 Water quality in the ride pond shall conform to local or applicable ASTM standards, or both.

6.4 Fire extinguishers shall be provided and located in accordance with NFPA (National Fire and Protection Association)³ or other responsible bodies, or both.

7. Operational Requirements

7.1 Operational requirements shall be in accordance with this practice and Practice **F770**. The items below are requirements in addition to Practice **F770**.

8. Maintenance Requirements

8.1 Maintenance requirements shall be in accordance with this practice and Practice **F853**. The items below are requirements in addition to Practice **F853**.

9. Supporting Requirements

9.1 There are inherent risks in the participation in or on any amusement ride, device, or attraction. Patrons of an amusement ride, device, or attraction, by participating, accept the risks inherent in such participation of which the ordinary prudent person is or should be aware. Patrons have a duty to exercise good judgment and act in a responsible manner while using the amusement ride, device, or attraction and to obey all oral or written warnings, or both, prior to or during participation, or both.

9.2 Patrons have a duty to not participate in or on any amusement ride, device or attraction when under the influence of drugs or alcohol.

10. Keywords

10.1 amusement rides and devices; operating procedures

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