



Standard Practice for Low Impact Paintball Field Operation¹

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INTRODUCTION

This practice sets forth procedures for conducting a form of low impact paintball games through the establishment of specific game rules and equipment requirements which serve to reduce the discomfort sometimes experienced by participants from paintball impacts in traditional paintball games. Specific paintball markers and specific calibers of paintball may be required. The goal is to assist paintball field operators in running a safe business. Like any other physical activity, paintball presents a potential for injury. No procedural practice can prevent all injuries, especially when paintball players do not follow safety instructions. The ultimate responsibility for preventing injury lies with the paintball player. This practice, however, intends to promote specific game rules and equipment requirements for safe low impact paintball field operation through standardization of operating practice.

1. Scope

1.1 This practice establishes minimum safety requirements for the operation of Low Impact Paintball Playing Fields, and provides for certain required materials and procedures.

1.2 *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

[F1750 Specification for Paintball Marker Threaded-Propellant Source Interface](#)

[F1776 Specification for Eye Protective Devices for Paintball Sports](#)

[F1979 Specification for Paintballs Used in the Sport of Paintball](#)

[F2030 Specification for Paintball Cylinder Burst Disk Assemblies](#)

[F2184 Guide for Installation of Paintball Barrier Netting](#)

[F2271 Specification for Paintball Marker Barrel Blocking Devices](#)

[F2272 Specification for Paintball Markers](#)

[F2278 Test Method for Evaluating Paintball Barrier Netting](#)

[F2553 Specification for Warnings on Refillable CO₂ Cylinders Used In the Sport of Paintball](#)

[F2653 Specification for Paintball Valve Male Threaded Connection for Use with Approved Cylinders](#)

[F2773 Practice for Transfilling Compressed Air or Nitrogen and Safe Handling of Small Paintball Cylinders](#)

[F2856 Practice for Transfilling and Safe Handling of Small CO₂ Cylinders for Use in Paintball](#)

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *bulk cylinder, n*—a gas storage vessel used to fill gas propellant vessels on paintball markers as men.

3.1.2 *discharge mode, n*—a mode that controls the number of paintballs discharged per trigger cycle.

3.1.3 *ear protection, n*—devices that cover the ear cavities and prevent direct entry of paintballs into the ear canals.

3.1.4 *filling apparatus, n*—equipment used to properly fill gas propellant vessels on paintball markers from bulk cylinders.

3.1.5 *game area, n*—an area in which paintball games are conducted and in which paintball goggles are required to be worn.

3.1.6 *game organizer, n*—adult person responsible for supervising the paintball game and administering the pre-game player safety briefing.

3.1.7 *goggles, n*—consist of eye and head protection devices (EHPD's) that comply with Specification [F1776](#).

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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.

3.1.8 *goggles on area, n*—areas in which all persons are required to wear paintball goggles meeting the requirements of Specification **F1776**, such as and not limited to playing fields, game areas, chronograph areas and target ranges.

3.1.9 *low impact paintball marker, n*—a paintball marker designed so as to be capable of discharging paintballs within the diameter range of 0.40–0.55 caliber at a velocity not exceeding 150 fps, and meeting the other requirements of Specification **F2272**.

3.1.10 *low impact paintball, n*—supervised paintball games using low impact paintball markers and conducted in accordance with the procedures as defined in this standard practice.

3.1.11 *paintball, n*—the ammunition used to fire from a paintball marker that complies with Specification **F1979**.

3.1.12 *paintball air system, n*—the power source normally used by a paintball marker to propel a paintball that meets Specifications **F1750**, **F2030**, **F2553**, and **F2653** where applicable.

3.1.13 *paintball marker, n*—a device specifically designed to discharge paintballs that comply with Specification **F2272**.

3.1.14 *paintball marker barrel blocking device, n*—a device specifically designed to be installed on a paintball marker to prevent the accidental discharge of paintballs that comply with Specification **F2271**.

3.1.15 *player, n*—a paintball game participant.

3.1.16 *playing field, n*—an area delineated by a boundary marker, in which paintball games are conducted.

3.1.17 *safety mechanism, n*—a supplemental safety device that, when activated, disables a part of the paintball marker, usually the trigger, to prevent unintentional firing in normal use and must be released to allow the marker to be discharged by the movement of the trigger. The device is sometimes referred to as a *safety*, *safety button*, or *safety lever*. An electronic on/off switch is considered to be a safety mechanism if, when the switch is placed in the off position, it renders the marker inoperable.

3.1.18 *staging area, n*—an area protected against stray entry of paintballs, in which paintball players organize themselves for a game.

4. Operational Procedures

4.1 *Safety Rules Posted*—Basic paintball safety rules, printed in 24-point type or larger, shall be posted conspicuously at the registration area. Every player shall be instructed to read the safety rules.

4.2 *Field Orientation and Safety Briefing*—Prior to their first game of the day, every player shall be given or shown a formal briefing on risk of injury, game rules, field orientation, equipment operation, general paintball safety rules, special safety rules for reduced impact paintball, and instructions about what to do in case of an emergency.

4.3 *Barrel Blocking Device Regulation*—All players shall be required to have paintball marker barrels blocked with a device specifically designed for that purpose at all times other than while on the playing field during games, at the chronograph, or

at the target range. Barrel blocking devices are the primary safety device for paintball markers, and must comply with Specification **F2271**.

4.4 *Goggles*—All persons shall be required to wear paintball goggles at all times while they are in areas where they might be struck by a paintball. The goggles shall comply with Specification **F1776**.

4.5 *Chronographing Procedures*—All field rental paintball markers shall be chronographed daily prior to being used at the field. All other paintball markers shall be chronographed at the field prior to being used on the field. In addition, CO₂ powered markers should be chronographed again whenever the temperature on the playing field increases by more than 10 degrees (F).

4.6 Required Signs:

4.6.1 Signs conveying the following requirements shall be posted conspicuously:

4.6.1.1 “Goggles On” signs shall be posted at the exits of the staging area along routes to the playing fields, and at the entrances to any other areas that paintball marker discharge might be permitted.

4.6.1.2 “Barrel Blocker Required” signs shall be posted at the exits from the playing fields, chronograph area, target range, and anywhere else that paintball marker discharge might be permitted.

4.6.1.3 “Paintball Game Area, Eye Protection Required” signs shall be posted at locations where unauthorized direct access to the playing fields is likely by outsiders not familiar with the sport.

4.7 Emergency Requirements:

4.7.1 *Emergency Contingency Plan*—Emergency procedures, printed in 12-point or larger type shall be on hand and all staff members will be aware of the required actions to implement this plan.

4.7.2 *First Aid Kit*—A properly stocked first-aid kit of suitable size will be readily available at the facility.

4.7.3 *Emergency Information*—The contact information and location of the closest police, fire and hospital printed in 12-point or larger type shall be on-hand. In addition a method to contact these facilities will be available.

4.8 Adequate Staffing During Games:

4.8.1 *Recommended Referee to Player Ratio*—The recommended minimum ratio of referees to players at any paintball facility shall be one referee for every 15 players.

4.8.2 *Recommended Minimum Number of Referees Per Playing Field*—At least two referees shall be present on every paintball playing field during active play. Due to physical size, layout, or number of participants, some fields may require additional referees present to provide a safe and manageable playing environment. The game organizer and referees should review these needs prior to play.

4.9 *Fill Station*—Bulk cylinders shall be secured properly to prevent falling over, during storage and during use. A scale shall be used to ensure against CO₂ overfills beyond the manufacturer’s recommended capacity. All gas filling apparatus shall meet OSHA, DOT, and Compressed Gas Association requirements for the handling of compressed gasses. The

instructions for the proper filling of cylinders provided by the manufacturer for the filling apparatus shall be posted in the filling area.

4.10 *Filling of Paintball Air Systems and Cylinders*—All transfilling will be done in compliance with Practice **F2773** or **F2856**. Fill station operators shall be trained in accordance with DOT requirements.

4.11 *Adequate Spectator Provisions and Staging Area*—Areas in which spectators are permitted to observe paintball games without goggles and player staging areas shall be protected against accidental paintball entry. These areas shall be designed in a manner or location such that stray paintballs cannot enter from other areas, such as playing fields, target areas, or chronograph areas.

4.12 *Protective Barriers*—Staging areas and paintball playing field boundaries may be protected by a minimum of 300 ft of open space, by natural growth which prevents paintball penetration, or by other barriers which prevent paintball penetration. Any paintball barrier netting used on the game site will meet Test Method **F2278** and will be installed based on the instructions in Guide **F2184**.

4.13 *Game Area Requirements:*

4.13.1 Boundaries of all outdoor paintball playing fields shall be marked clearly and continuously with rope, tape, or other highly visible material.

4.13.2 Areas with hidden dangers such as water, cliffs, or sharp objects shall be roped off, posted, or plainly identified and will be reviewed in the player briefing.

4.13.3 Playing fields shall be free of barbed wire, broken glass, and other dangerous debris.

4.13.4 Floor surfaces of indoor paintball playing fields shall be maintained in a manner which provides adequate traction.

4.14 *Low Impact Paintball Markers:*

4.14.1 All paintball markers used in this activity shall be low impact paintball markers as defined in this standard and shall operate in semi-automatic or single shot/pump firing modes only.

4.15 *Game Rule Restrictions:*

4.15.1 Shooting proximity shall be ten foot minimum distance. Players must be prohibited from shooting at other players who are closer than ten feet away.

4.15.2 Players should not be in possession of markers at any time other than when they are on the playing field and under the supervision of a trained referee. Markers should be handed to players as they enter the playing field just prior to a game, and taken from the players immediately as they come off of the field following the conclusion of each game.

4.16 *Velocity Restrictions:*

4.16.1 Low impact markers must have a chronographed velocity adjusted so as to not exceed 150 FPS.

4.16.2 Players shall be informed that the possession of paintball marker velocity adjusting tools while on the playing field is prohibited.

4.17 *Paintball High Pressure Propellant Gas Storage Vessel Requirements*—All paintball propellant gas systems must meet various government regulations that vary by location and shall comply as required with Specifications **F1750**, **F2030**, **F2553**, and **F2653**.

5. Keywords

5.1 field operation; goggles; low impact; paintball; paintball safety

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