



Standard Practice for Paintball Field Operation¹

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INTRODUCTION

This practice sets forth procedures for operating a paintball playing field. 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 safe paintball field operation through standardization of operating practice.

1. Scope

1.1 This practice establishes minimum safety requirements for the operation of paintball playing fields, and provides for certain materials and procedures required.

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

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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.

F2773 Practice for Transfilling Compressed Air or Nitrogen and Safe Handling of Small Paintball Cylinders

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.

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 *goggles, n*—consist of eye protection devices that comply with Specification F1776 and have ear and face protection integrated into the design.

3.1.7 *goggles on area, n*—areas in which all persons are required to wear paintball goggles, such as and not limited to playing fields, game areas, chronograph areas, and target ranges.

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

3.1.9 *paintball air system, n*—the power source normally used by a paintball marker to propel a paintball.

3.1.9.1 *Discussion*—All paintball air systems must meet various government regulations that vary by location and shall comply as required with Specifications F1750, F2030, F2553, and F2653.

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

3.1.11 *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**.

3.1.12 *player, n*—a paintball game participant

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

3.1.14 *safety mechanism, n*—a 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.

3.1.15 *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*—Player 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 safety rules, risk of injury, game rules, field orientation, and equipment operation. During this briefing every player will be advised of 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. All barrel blocking devices will comply with Specification **F2271**.

4.4 Goggles:

4.4.1 All persons shall be required to wear paintball goggles at all times while they are in areas designated as “goggles on areas.” The goggles shall comply with Specification **F1776**.

4.4.2 Follow manufacturers’ instructions for fitting goggle systems. Goggles should fit on face so that foam makes contact with forehead and cheeks and seals around orbital area. Goggles should be in firm contact with face and headstrap adjusted snug against head. After proper adjustment the headstrap must have a minimum 1 in. remaining stretch from back of head when finger is hooked under strap and slight load is applied.

4.5 *Chronographing Procedures*—All paintball markers shall be chronographed. 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. Paintball marker velocities shall be adjusted so as to not exceed 300 ft/s.

4.6 Required Signs:

4.6.1 The following signs 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 Plugs” 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*—Will be 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 ratio of referee’s 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 one referee shall be present on every paintball playing field during active play. Due to physical size, layout, or number of participants, some fields may require an adjustment to the number of 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**.

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. Staging areas may be protected by a minimum of 300 ft of open space by natural growth which prevents paintball penetration or by a barrier which prevents 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**.

4.12 Game Area:

4.12.1 Game areas require the following:

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

4.12.1.2 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.

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

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

4.13 *Paintball Markers*:

4.13.1 Paintball markers shall comply with Specification **F2272**.

4.13.2 The game operator or referee will designate the allowable discharge modes for all paintball markers prior to the beginning of play. The game operator or referee may allow a change in the mode of fire as long as all participants are advised of this change prior to the beginning of play.

4.13.3 All paintball markers used by a player shall have working safety mechanisms.

4.13.4 Trigger guards shall be mandatory on all paintball markers used by players. The trigger guard must be of rigid construction and be rigidly affixed to the marker.

4.14 *Velocity Adjusting Regulation*—Players shall be informed that the possession of paintball marker velocity adjusting tools while on the playing field is prohibited.

5. Field Rental Equipment Maintenance

5.1 *Goggles*:

5.1.1 Straps should be replaced or tested using tool similar to Figure X2.1 in Specification **F1776** whenever they appear have inadequate elasticity or are loose fitting based on fitting instructions in **4.4.2**. Headstraps must be replaced whenever they fail this test.

5.1.2 Goggle face foam must be maintained in good repair.

5.1.3 Goggle lens shall be maintained as per the manufacturer's instructions and replaced as indicated in Specification **F1776**.

5.2 *Barrel Blocking Devices*—All barrel blocking devices will be checked every 90 days for compliance with Specification **F2271**.

5.3 *Paintball Barrier Netting*—Barrier netting should be checked monthly for compliance with Test Method **F2278** and Guide **F2184**.

5.4 *Paintball Markers*:

5.4.1 Paintball markers shall be checked monthly to ensure they have working safety mechanisms.

5.4.2 Paintball markers will be maintained as recommended by the product manufacturer.

5.5 *Chronographs*—Are to be checked for proper operation, based on the manufacturer's instructions on a monthly basis.

5.6 *Fill Stations/Equipment*—Are/is to be checked for proper operation based on the manufacturer's instructions once a month.

6. Keywords

6.1 equipment maintenance; field operation; goggles; paintball; safety

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