



State of Tennessee  
Environment and Conservation  
State Parks



## Rules for Historic Weapons Demonstrations

By their nature, any time black powder weapons are used there is an increased risk of injury. Living history groups need to hold their members to high safety standards. Tennessee State Parks depends on a strong, consistently demonstrated commitment to safety for any person or group involved in a park event.

All firing demonstrations will be done according to Tennessee State Park black powder safety regulations (ref: TSP Policy 904), under the direct supervision of a State Park Certified Safety Officer (SPCSO), who will have the final say on the conduct of all historic weapons firing demonstrations. Safety is our primary concern and our common goal.

Before participating in a living history event involving historic black powder weapons within a Tennessee State Park, each unit commander and/or individual not attached to a unit must sign a Historic Weapons Firing Permit. This permit is to be signed and returned to that site's SPCSO by mail or fax no less than two weeks prior to the event.

Failure to abide by these regulations will result in the removal of the offending person(s) or unit(s) from the State Park site.

### Acceptable Weapon Types

**Small Arms:** Only reproduction firearms may be used at Tennessee State Park's black powder events or interpretive programs. The use of original firearms is prohibited\*. Reproduction small arms that will be allowed are the long weapons appropriate to the period being portrayed at that particular site, (refer to the site's SPCSO for a list of acceptable weapons for a particular event or program), and of appropriate length, i.e. no shortened or "sawed off" weapons. Pistols may not be brought onto a State Park unless approved by the site's SPCSO prior to the event. If approved, they may be carried by officers only, kept unloaded, and not to be fired or brandished, remaining either holstered or affixed to the belt.

- **\*Exception:** Original 20<sup>th</sup> Century weapons (non black powder firing) may be utilized at a Tennessee State Park event depicting 20<sup>th</sup> Century military timelines and/or blank firing demonstrations.

**Artillery:** Only full-scale reproduction artillery pieces appropriate to the time period of the site's event may be used for cannon demonstrations. Artillery pieces shall have solid cast, metal barrels with a steel insert and be mounted on wood carriages that are in good repair.

**Weapon Safety- The Public and You:** To ensure the safety of participants and our visitors, a high degree of firearm discipline is expected of each and every participant.

- All weapons will remain under physical control of its owner at all times.
- No weapon is to be left unattended.
- Visitors are not allowed to handle or touch a loaded weapon.
- Visitors may touch an unloaded weapon so long as the owner maintains physical control of it.  
**DO NOT HAND YOUR WEAPON TO ANY VISITOR.**
- Participants under the age of 16 may not handle firearms while on the site.
- All firearms, (and artillery pieces), will be handled as if loaded at all times. **NEVER** point your weapon, (firearm, cannon, or edged weapon), at anyone at any time.
- Any unauthorized firing of weapons in the State Park could result in the removal of individuals and/or units from the encampment/event.

**Appropriate Drill Manuals:** Units will demonstrate proficiency in the proper 18<sup>th</sup>, 19<sup>th</sup>, or 20<sup>th</sup> century manual of arms for their weapon(s) used or periods being interpreted on a given State Park site. This includes safety steps and misfire procedures.

**Guidelines for Handling of Black Powder Ammunition:**

- Within the following guidelines, “black powder” refers to traditional sporting grade gunpowder. The use of synthetic gun powders (such as Pyrodex) and the use of blasting powders within firearms and cannons are prohibited.
- Artillery will fire only Cannon Grade or “1F” (very course) black powder. Loose priming or quill primers can be made up of “2F” or “3F” (medium coarse or fine) black powder.
- Muskets and rifles will normally fire only “2F” black powder. With the approval of the State Park’s black powder inspector, smaller charges of “3F” (fine grain) black powder can be used. “3F” black powder can be used as the priming charge in rifles.

**Ammunition:**

- Advance notice will be given to units as to whether the State Park will supply them with black powder cartridges or if the participants will have to bring their own.
- All black powder brought into Tennessee State Park areas by outside individuals or groups must be in the form of prepared cartridges and be under Tennessee State Park control when not actually in use during a demonstration. However, specific Tennessee State Park sites reserve the right to prohibit outside groups or individuals from bringing black powder onto said site and choose to issue prepared cartridges for the particular event or interpretive program. Contact the site’s SPCSO for specific event or interpretive program black powder guidelines. **Bulk or loose black powder is absolutely prohibited.**
- If the park is supplying cartridges for an encampment/event, units will not bring any cartridges with them unless otherwise approved by Tennessee State Park staff.
- If a unit is bringing its own cartridges, the rounds will be inspected to ensure they follow accepted Tennessee State Park safety guidelines. Construction will be of sturdy paper only. Use of staples or tape is prohibited. Maximum charges shall follow the established loads and granulations as stated within the Table of Maximum Loads attached to this document and will be turned over to the State Park’s SPCSO and lodged in the park magazine. Receipts will be given to each unit and any unused rounds returned to the unit at the end of the encampment/event.

- Cartridges will be issued out to units prior to any firing demonstrations and all unused rounds returned to the park's magazine immediately after the demonstration is over. Firing demonstrations are the only time units are to have cartridges with them.
- If an individual has a dummy round (a cartridge with ball and filler material) it must be clearly marked to forestall any confusion.
- Live cartridges with ball are prohibited.
- Powder horns and priming horns may be used during demonstrations but they will contain only what powder is needed for the immediate demonstration at hand.
- Participants under age 16 may not handle powder.

### **Inspections:**

- Each unit will undergo a safety inspection of all firearms, artillery pieces, ammunition, primers, and all other related equipment by the State Park's SPCSO before being permitted to participate in a firing demonstration.
- Every flintlock musket or flintlock rifle must be equipped with a proper working leather hammer stall. Flintlock muskets and rifles being utilized in military formations engaging in volley fire shall also be equipped with a proper working flash guard.
- A weapon inspection will also be performed immediately after every firing demonstration to ensure the weapon is clear.
- Weapons that pass the first morning inspection will be "tagged" by a small, unobtrusive piece of natural wool yarn, (provided by the Tennessee State Park).
- Weapons that fail inspection may not be carried. The owner must return said weapon to their vehicle or it will be secured by the Tennessee State Park and returned at the end of the event.
- Weapons must meet the following standards to pass inspection:
  1. Be unloaded
  2. Secured flash guard and hammer stall
  3. No cracks or splits in the stock
  4. Furniture and barrel fit securely to stock
  5. No missing stock pins or screws
  6. Lock works smoothly
  7. Half-cock position works properly and can withstand at least 15lbs of pressure without being set off
  8. Flint is secured by leather or lead
  9. Steel and spring are in good condition
  10. Barrel free from visible dents or cracks
  11. No excessive rust or corrosion on the barrel, lock, and touch hole or nipple
  12. No fouling in the barrel or on the lock
  13. Weapon must be clean and the SPCSO must hear a metallic "ping" when the rammer is fully seated

### **Firing Procedures:**

- All firing demonstrations taking place on Tennessee State property may only be done under the direct supervision of a SPCSO.
- For protection from flash burns, all demonstrators firing black powder firearms will wear natural fiber, long-sleeved outer garments or full uniforms as appropriate to the historical impression of the event.
- Range safety standards will be observed at all times. The absolute minimum distance between demonstration weapons and visitors during volley fire demonstrations is 15 yards or, 50 yards

down range with respect to small arms. Firing will commence or cease at the discretion of the supervising SPCSO.

- Powder shall not be poured directly from the powder horn to muzzle.
- Muskets shall be elevated well above opposing force and a safety zone of at least 50 yards will be observed at all times. At no time shall a weapon be directed toward the public, other participants, or yourself.
- Participants less than 18 years of age and at least 16 years of age wishing to be armed with a small arm must have an adult participant to serve as their sponsor. The sponsor shall remain with the juvenile at all times while the latter is armed. The sponsor must serve as the supervisor.
- Only slow match with loose powder (contained in a prepared paper cartridge) or quill primers can be used to fire 18<sup>th</sup> century artillery and only commercially prepared friction primers appropriate to the specific artillery piece can be used to fire 19<sup>th</sup> century artillery. The use of port-fires is prohibited.
- At least 6 qualified people must be on a cannon crew for the piece to be fired.
- There must be a 5-minute waiting period between each shot loaded and fired from an artillery piece.
- To take part in a cannon firing demonstration each individual must be at least 18 years of age.

## **Misfire Procedures**

### **Small Arms:**

- **Failure to Spark:**
  1. Call out "misfire" and hold the musket in the firing position for 10 seconds to make sure there is no hang fire.
  2. Return to the priming position.
  3. Check priming and flint. Wipe down the steel. If working with the flint, attach the hammer stall and dump priming.
  4. Re-prime if necessary.
  5. Return to the shoulder position and continue the firing procedure when ordered to do so by your company officer.
- **Flash in the Pan:**
  1. Call out "misfire" and hold the musket in the firing position for 10 seconds to make sure there is no hang fire.
  2. Return to the priming position.
  3. Half-cock the piece and reattach the hammer stall.
  4. Pick out the touch-hole, wipe off the steel and flint and re-prime.
  5. Return to the shoulder position and continue the firing procedure when ordered to do so by your company officer.
- **Percussion Cap Failure:**
  1. Call out "misfire" and hold the musket in the firing position for 10 seconds to make sure there is no hang fire.
  2. Return to the priming position.
  3. Check the percussion cap. Remove and discard current cap. Pick out the nipple.
  4. Re-prime with fresh cap.

5. Return to the shoulder position and continue the firing procedure when ordered to do so by your company officer.

### 18<sup>th</sup> Century Artillery:

- **Stage 1:**

1. The piece fails to fire. The commander calls out "Misfire."
2. Everyone maintains their position and waits 2 to 5 minutes after the last wisp of smoke was observed.
3. After the wait, the commander has #2 remove the spent quill, (if used), repack and prime with loose powder. #2 should wear light gloves for this as they make sure their horn contains only the required amount of powder and stays clear of the wheel.
4. With #2 clear, the commander gives the "fire" command again and #1 attempts to fire. Should the piece misfire again, proceed to the next step.

- **Stage 2:** A re-priming has not been effective. **Do not re-prime again.** All remain in position and the following steps are taken.

1. With a turkey baster/syringe from the chest, several bulbs of water are slowly squeezed into the vent by the commander.
2. The commander then gently removes the quoin or elevating device and brings the muzzle to full elevation.
3. The flooding device, (a three foot length of hose with an attached funnel), is inserted into the bore by #4, who holds the funnel end while #3 slowly empties a bucket of water through the funnel into the bore.
4. The water is allowed to sit in the bore for at least 30 minutes. During this time, the audience is sent off and the crew stays to keep the area secure.
5. The wad hook or worm is gently introduced into the bore, hooked into the charge and is withdrawn. It should then be placed in a bucket of water and pulled apart. The remains should be disposed of safely.
6. The gun should be thoroughly cleaned and the crew may be dismissed.

### 19<sup>th</sup> Century Artillery:

- **Gunner:**

1. In case of misfire the Gunner immediately gives the command, "Don't advance, the primer has failed."
2. Except in those cases when the primer simply slips out of the vent or the lanyard hook slips from the loop of the primer, the minimum waiting time is 30 seconds before attempting to re-prime the piece. In some cases, it may be prudent to wait more than 30 seconds but in no case, (except the two noted above), shall the waiting time be less than 30 seconds.
3. When the gunner determines that sufficient time has elapsed he gives the command, "Re-prime the piece," and when #2 signals, "Ready," he gives the command, "Fire." He will be alert during the re-priming that all crew members perform their duties safely and correctly.

- **Cannoneer #1:**

1. Cannoneer #1 will remain in the position of "Ready" during re-priming, keeping their eyes down range, alert for possible range violations.

- **Cannoneer #2:**

1. At the command, "Re-prime the piece," #2 rises from the position of "Ready," steps with the left foot first, inside the wheel, back to the muzzle, (without grasping the wheel), and positions himself close to the axletree. With the left hand, (palm side up), he carefully removes the failed primer. He then receives from #3, (over the wheel), the priming wire, grasped along the shaft with the thumb and index finger of the left hand. The wire is inserted into the vent and released allowing it to drop into the vent. After a short pause, he retakes the wire with the thumb and index finger of the left hand and pricks the charge well. The wire is then withdrawn and handed, (over the wheel), to #3.
2. When the wire is returned to #3, #2 then turns to his right and receives from #4, (over the wheel), a prepared primer. He inserts the new primer with the left hand, the primer grasped along the barrel with the thumb and index finger, using the right hand to hold the lanyard and keep it from becoming entangled on the carriage. When the primer is inserted, he moves the left hand down the side of the breech to secure the lanyard, while #4 moves into position for firing, being sure to keep eye contact with #4 while he is stretching the lanyard.
3. When #4 is in position, he will nod his head to indicate he is ready. Upon this signal, #2 will release the lanyard and retrace his steps back outside the wheel, being sure to keep his back to the muzzle and not grasp the wheel.
4. When outside the wheel, he will resume the position of "Ready" and give the Gunner the verbal signal, "Ready."

- **Cannoneer #3:**

1. When the command, "Re-prime the piece," is given, #3 steps forward, even with the hub of the wheel and hands #2 the priming wire over the top of the wheel.
2. When #2 has finished re-pricking the charge, he will return the wire to #3, over the wheel, and #3 steps back to his position.

- **Cannoneer #4:**

1. When the command, "Re-prime the piece," is given, #4 steps forward, even with the hub of the wheel.
2. He immediately fixes another primer to the lanyard and as soon as #2 is ready, #3 hands him the primer over the wheel.
3. Keeping eye contact with #2, he stretches the lanyard as before, nodding when in position, so that #2 can return to his position outside the wheel.
4. When the command, "Fire," is given by the Gunner, #4 pulls the lanyard as before.

- **Cannoneer #5:**

1. #5 remains in position, keeping his eyes down range, alert for possible range violations.
2. The re-priming procedure is repeated three times before attempting to soak the charge and unload it through the muzzle as per the following procedures.
  - a. Remove the audience from the demonstrations area explaining the nature of the situation.
  - b. The gunner orders #1 and #3 to clear the piece.
  - c. #2 steps inside the wheel.
  - d. #4 receives from #5 a syringe and supply of water and he then fills the syringe and stands by, at the hub of the wheel, to assist #2.

- e. #2 takes, over the wheel, the syringe from #4 and injects water down the vent, repeating this three times.
  - f. #2 then receives from #4 a priming wire and with it he pricks the charge.
  - g. Returning the wire to #4, #2 then carefully reaches back with the right hand, to the handles of the elevating screw and elevates the muzzle fully.
  - h. When the muzzle is fully elevated, #2 continues injecting water into the vent until it runs out of the vent.
  - i. #2 then returns outside the wheel and clears the piece.
3. Once #2 has cleared the piece, #1 returns to his position on the right, equipped with a bucket of water or a hose and fills the bore with water.
  4. When full, #4 unkeys the worm, takes it from its implement hook and passes it over the piece to #1.
  5. #1 carefully sends the worm down the bore, draws the charge and places it in the sponge bucket, where it is safely broken up and the powder destroyed by soaking.

### **Edged Weapons:**

- Edged weapons, (swords, bayonets, knives, hatchets, etc.), may be drawn and brandished in a safe and prudent manner, when the bearer and the weapon are behind a barrier in a secure area out of the reach of visitors, (i.e. officers carrying swords during the tactical demonstration, or infantrymen in a bayonet demonstration.)
- At no time may participants engage in simulated combat with real or simulated edged weapons.
- When not behind a barrier, (i.e. out among visitors), swords, knives, bayonets, etc. may not be fully drawn. They may be partially drawn enough to expose some of the blade for visual inspection for interpretive purposes but no visitor may touch the blade.
- Soldiers on sentry duty may fix bayonets but must keep the musket in a vertical position and bearer must maintain control of the weapon.
- At no time during tactical demonstrations/battle re-enactment may muskets be fired with bayonet fixed.