

# CONTINENTAL LINE

## Safety Guide to Black Powder

### GENERAL GUIDELINES

These guidelines apply to the use of Black Powder firearms for historical demonstration purposes by Continental Line (C.L.) Member Units. "Member Units" mean an organization that is recognized by the C.L. and is officially enrolled as such, or any unit that is a guest of the C.L.

"Demonstration" means the loading and firing of a black powder weapon, for the purpose of public education, under the direction of a Safety Officer.

Every Member Unit is required to have a Safety Officer. This individual is thoroughly knowledgeable of the Safety Standard and Guide to Black Powder. This individual is directly responsible for the weapons and/or Artillery Piece and how they are used by the members of their own Unit. This individual is answerable to the C.L. for any compromise or violation of these Guidelines, and has signed a statement declaring such.

Only two types of weapons may be fired by Member Units: muzzleloading black powder flintlocks, and full-scale muzzleloading cannons. Pistols may NOT be fired in demonstrations except by Mounted Troops with approval of the Field Commander.

Edged weapons, swords, knives, tomahawks, etc. must always be considered dangerous. Except for use as a camp tool, they should never be unsheathed.

The two types of weapon demonstrations permitted are; Individual Demonstrations and Tactical Demonstrations.

Individual Demonstrations are demonstrations during which a single weapon is loaded and fired by a member or, in the case of a cannon, a crew of members. Tactical Demonstrations are those where two or more weapons are loaded and fired under simulated battle conditions. This includes but is not limited to, reenactments in which opposing forces face each other.

An individual who operates a muzzleloaded black powder weapon in an Individual Demonstration must be trained and the weapon inspected prior to use by a Safety Officer. A Unit participation in a Tactical Demonstration (including reenactments) must have present, during the demonstration, at least one member who is a Safety Officer.

### INDIVIDUAL DEMONSTRATION

1. The only weapons authorized for Individual Demonstrations are muzzleloaded black powder shoulder arms. These include flintlock muskets, rifles, musketoons, and carbines. Pistols may be demonstrated only by Mounted Troops.
2. A minimum of two members must be present for an Individual Demonstration. One to operate the weapon and another to provide crowd control and watch for safety. Either member may address the public. Each must be at least 16 years old. All Individual Demonstrations must have prior approval of a Safety Officer.
3. The Individual Demonstration must be held in an area as detailed in the appended diagram for Individual Demonstration Range
4. The weapon being demonstrated is subject to inspection by a Safety Officer using the appending checklist.
5. Blank charges are not to exceed the maximum load designated in the appended Table of Maximum Loads for the particular weapon used.

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6. Muskets are to be loaded from pre-wrapped paper cartridges prepared according to correct period procedures. Aluminum foil, coin wrappers and metal staples, etc, are not to be used.
7. Wadding is permitted for Individual Demonstrations but NOT in Tactical Demonstrations.
8. The demonstrator must carry cartridges in an authentic leather or leather and wood block cartridge box, worn well around on the right hip. The demonstrator must take care that the flap is kept down except when the cartridge is being withdrawn. Extreme care must be taken when carrying a belly box.
9. Rifles may be loaded with powder from horns, however, the powder of the main charge must first be poured into a powder measure conforming to the Table of Maximum Loads, then poured into the muzzle. The main charge must never be poured directly from the horn into the barrel. Riflemen must carry loose powder in a well maintained horn that is kept stoppered.
10. When loading and firing, the demonstrator will follow the correct manual for the type of weapon being fired. Riflemen who do not have a prescribed manual will follow safe procedures.
11. It is the responsibility of the non-shooting demonstrator to see that the shooter observes correct loading and firing procedures.
12. At NO time is the demonstrator to surrender control of the weapon to a member of the public. A visitor may feel the heft of the weapon while the demonstrator holds the sling. Likewise, edged weapons must remain under the control of the demonstrator.
13. Tomahawk and knife throwing demonstrations are permitted under supervision of the Safety officer. The appended Artillery Demonstration Range will be the safety standard.

At NO time will any member of the public be allowed to fire a weapon and at no time will a demonstrator carry live ammunition.

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### ARTILLERY DEMONSTRATION

Cannons are extremely dangerous to load and fire. Cannons may be demonstrated by members only under the direct supervision of a Safety Officer. The Safety Officer and the Gun Commander should be one in the same.

1. Ideally a cannon crew will have six (6) or more members, but no gun will be operated with less than four (4). The members of the crew are:

**The Gun Commander** - This man has overall command of the gun and crew. He is responsible for giving commands and assuring that crew members execute their duties correctly and safely. He does not normally take part in any of the loading or firing activities. If he does serve the gun, he will only serve as Gunner #1.

**Gunner #1** - (Firer) This job is to maintain the linstock and to touch off the charge when ordered by the Gun Commander.

**Gunner #2** - (Vent Tender) This man stops (tends) the vent to be sure NO air escapes during worming, sponging and loading. He picks open the charge with a priming wire and priming the piece. This man must have a leather thumbstall to protect his thumb from the heat of the gun while tending the vent. This position is critical to safe operation of the piece, and should always be manned by an experienced Artillerist.

**Gunner #3** - (Ram & Sponge) This man sponges the piece and rams home the cartridge. He must always be sure the sponge is in good condition and that there is water for the artillery bucket. This man is required to wear heavy duty welder's gloves for protection while performing his duties. It is the most dangerous position on the crew and, must exercise extreme caution at all times. Like #2, this position should always be served by an experienced crew member.

**Gunner #4** - (worm & Loader) This man's job is to extract the spent cartridge casing (search the piece), and to place the new round in the muzzle for #3 to ram (charge the piece).

**Gunner #5** - (Powder Handler) This man's job is to remove the powder box to a secure position before the piece is fired, and to bring each round forward to #4 for loading. He is also responsible for manning the tiller for aiming the gun, and guarding the powder box at all times.

**Gunner #6** - (Powder Handler) This man is charged with the security on the powder box at all times.

Any additional gunners perform duties as assigned (pulling the gun, relieving casualties during tactical demonstrations, etc.)

In case of a four man crew, Gunner #4 will double as #5. Gunner #4 should never carry extra rounds in the pass-box, as he will be close to the piece when it fires. For guns without a removable ammunition box (gallopers), the crew must always be certain that the side lockers are closed and latched.

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NOTE: the members of the various positions are arbitrary, and serve-only to list the necessary crew-members for any gun.

2. Cannons used in firing demonstrations must be full-scale reproductions and must conform to the specifications in the Cannon Inspection Checklist. Original cannons may be used provided they too, conform to the same checklist.
3. All drill performed by the Artillery crew is subject to the approval of a Safety Officer using the Artillery Checklist.
4. Ammunition for artillery is to be prepared off-site of the demonstration or in an approved laboratory under the Safety Officer's supervision. Cartridges are to be made of at least 3 thicknesses of heavy gauge aluminum foil made around a former of a width corresponding to the bore of the Gun they are to be used with. Powder charges shall not exceed the specifications in the appended Table of Maximum Loads.
5. Demonstrations will be held in an area that conforms to the appended Range Diagram for Cannon Firing.
6. ALL FIRING SHALL BE WITH A LINSTOCK AND SLOW MATCH. Quills are preferred, black powder priming acceptable. Port-fires will not be used.

### Artillery Field Safety Signals

1. Loaded Gun – Artillery, both in battery and battalion, upon completion of loading to have the #3 (Rammer) and #4 (Worm) gunners stand outside of the cannon wheels in a present arms position. The #1 (Firing) gunner will raise the linstock above their head, which will be the signal for a loaded gun ready to fire.
2. Cannon Misfire – When a cannon has misfired or its safety zone is violated, both #3 (Rammer) and #4 (Worm) gunners will cross both the rammer and the worm over the cannon barrel and the linstock will be lowered to the ground position. This is the signal to take just care to stay clear of the artillery piece.

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### TACTICAL DEMONSTRATION

Tactical Demonstrations are inherently more dangerous than Individual Demonstrations for several reasons;

1. The number of demonstrators involved.
2. The close proximity of demonstrators to each other.
3. In the case of reenactments, the fact weapons are being discharged at opposing forces.
4. The greater difficulty in observing safety violations.

To assure maximum safety for demonstrators and visitors, the following standards will govern Tactical Demonstrations;

1. Participants in the Tactical Demonstrations shall be limited to members of the Continental line.
2. Shooters must be at least 16 years old.
3. Each unit shall have at least one member who has been appointed as a Safety Officer.
4. Weapons, ammunition, ammunition containers and weapon drill are subject to inspection by a Safety Officer who has the power to require correction of incidents of non-compliance with these Guidelines.
5. Tactical Demonstrations will be held only under the direct supervisor of a Safety officer. The scenario for each demonstration is subject to the Safety Officers prior approval.
6. Tactical Demonstrations will be held in areas of relative open spaces allowing clear fields of vision for participants.
7. Weapons and blank rounds of ammunition used in Tactical Demonstrations shall conform to the specifications laid down in these Guidelines. Powder loads shall not exceed the amounts specified in the appended Table of Maximum Loads.
8. There shall be no simulation of hand-to-hand combat.
9. Opposing forces shall not discharge weapons at each other unless there is an interval of at least 30 yards between them.
10. Weapons shall not be fired in the general direction or the public unless there is an interval of at least 100 yards. In all cases, weapons shall be aimed over the heads of all spectators.
11. Ramrods shall not be used and rounds are not to be wadded.
12. Bayonets shall not be fixed, and they shall remain in their scabbards. Hatchets, knives, and tomahawks shall never be unsheathed and the blade edge must always be covered. The exception for this bayonet rule will be by the command of the Field commander only.
13. Artillery crews shall follow the manual for their pieces, observing all safety procedures specified above. Guns will be operated by a minimum of four crew members. Small pieces (3 pounders, and below) shall not be discharged at opposing forces at ranges of less than 50 yards. Larger pieces (6 pounders and above) shall not be discharged at opposing forces of less than 100 yards.
14. Mounted participants shall be strictly monitored. The safe handling of horses shall be the responsibility of the owners at all times. Horses shall be tethered in designated areas when

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not in use. During tactical demonstrations, mounted troops will maintain a ten yard buffer zone between themselves and dismounted troops and men portraying casualties, at all times.

15. All Safety Officers have the power to order immediate correction of safety violations.
16. The Senior Safety Officer's power shall extend to stopping the demonstration if they feel that is a necessary course of action.
17. Under NO circumstances shall a weapon be discharged anywhere other than the Individual Demonstration or the Tactical Demonstration. Weapons shall not be discharged in camp or anywhere off the field of the demonstration.
18. Demonstrators are not to surrender control of their weapons to members of the public or the public to fire a weapon.
19. At NO time during the demonstration will the ramrod be used to clean the barrels. The ramrod will never be removed during demonstrations.

#### HANDLING BLACK POWDER AMMUNITION

Members will observe the following rules for the transportation and storage of blank ammunition.

1. Blank ammunition will be prepared off-site before the demonstration is held.
2. Loads shall not exceed the loads specified in the appended Table of Maximum Loads for the particular weapon to be fired.
3. Cartridges will be paper-wrapped, rolled on a former of the proper caliber for the weapon being fired, and secured with glue or string. METAL CLOSURES ARE NOT PERMITTED.
4. Ammunition should be transported in bulk, in secure, non-sparking boxes. Demonstrators must carry rolled cartridges in cartridge boxes that are in good repair, have secure leather flaps, and are kept clean of loose powder granules.
5. Member Units are required to store ammunition in a safe fire free area and out of the reach of the public.

CARTRIDGES WILL NOT BE GIVEN AWAY TO THE PUBLIC.

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### MUSKET & RIFLE INSPECTION CHECKLIST

Before the inspection, the weapon is to be confirmed to be unloaded by springing the rammer.

#### The Stock:

1. No cracks or splits.
2. Butt plate, trigger guard, etc., fit tightly with no burrs that would snag clothing or hands.
3. If pin-fastened barrel, no missing pins, & tight.
4. If band-fastened barrel, springs work smoothly & not bound by wood.
5. Two-piece stocks must have sections securely joined.
6. No splinters or rough edges.

#### The Lock:

1. The lock works smoothly.
2. All hammer positions are firm and solid.
3. The half-cock (safety) position works properly.
4. The trigger pull is proper, not a hair trigger nor too heavy.
5. Rifles with set triggers must be adjusted properly.
6. Locks must fit properly into the stock and snugly against the barrel.
7. Insure the leather or lead holds the flint securely in the lock jaws.
8. The pan is clean and in proper relation to the touch hole of the barrel.
9. All muskets must have a well fitting and tight metal flashguard.
10. The frizzen must not be deeply gouged. The frizzen must move properly against the frizzen spring and fits tightly against the pan.
11. Leather frizzen covers (hammer stalls) are highly recommended

#### The Barrel:

1. The flint is not striking the barrel.
2. The touchhole is clear with no signs of corrosion.
3. The ramrod is straight and fits properly.
4. The muzzle is not dented or worn.
5. Sights on rifles are not loose and are fitted as not to catch on clothing or hands.
6. Musket bayonet lug is securely welded and the bayonet fits easily and latches with a positive twist lock.

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### TABLE OF MAXIMUMLOADS

<b><u>Weapon Type</u></b>	<b><u>Caliber</u></b>	<b><u>Maximum Load</u></b>
<b><u>Shoulder arms;</u></b>		
Brown Bess Musket	.75	100 Grains fffg
Charleville Musket	.69	100 grains fffg
Rifles	varies	80 grains fffg
Pistols	varies	45 grains fffg
<b><u>Artillery</u></b>		
Grasshopper	3 pounder	8 ozs. fg
Light 6	6 pounder	12 ozs. fg
Howitzer	5.8 inch	10 ozs. fg
Iron Gun	3 pounder	8 ozs. fg
Iron Gun	4 pounder	10 ozs. fg
Iron Gun	6 pounder	12 ozs. fg



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### ARTILLERY DEMONSTRATION CHECKLIST

#### Before:

1. The Gun has been inspected, and bore is Clean of any foreign material.
2. The carriage is in good condition & all keys secure.
3. The accessory equipment is in good condition--sponge head in good repair, rammer and sponge head secure on staff, etc.
4. Sponge head fits bore snugly but not too tight.
5. Ammunition boxes are clean and free of loose powder.
6. Necessary equipment on hand to handle a misfire.
7. The required number of personnel on hand to fire the piece.
8. The Gun is situated safely in relation to the public.

#### During:

1. The crew is following the approved manual with each person where they are supposed to be at any given moment.
2. The sponge is adequately damp but not soaking wet.
3. The rammer is wearing gauntlets, but they are not so stiff & heavy as to cause fumbling.
4. The sponge head does not contact the ground at any time as to prevent grass or sand etc, from sticking to it.
5. If there is a misfire, it is handled safely and properly.

#### After:

1. After firing, the piece is wormed and washed out & dried.
2. All weapons, explosives, & accessory pieces are accounted for.
3. The demonstration area is inspected carefully for smoldering residue.
4. The sponge head is thoroughly rinsed out and dried.
5. All remaining cartridges are promptly returned to the proper storage areas.
6. The Gun is secured and equipment stored properly.

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### CANNON INSPECTION CHECKLIST

#### The Tube:

1. Tube is clean and free of rust or corrosion
2. No sign of external damage or strain.
3. Inside of tube is clean and relatively smooth.
4. No internal signs of damage (bulges, pits, etc.).
5. No sign of corrosion damage at breach.
6. The vent is clear and of the acceptable size.
7. No signs of cracked or bending around the trunnions.
8. No signs of weakness at the chaplets on bronze tubes.

#### The Carriage:

1. Wheels are tight and free of rot and infestation.
2. The body of the carriage is free of rot and infestation.
3. No pieces or parts are missing, cracked, bent, or broken.
4. Wheels move freely.
5. None of the iron work is loose.
6. Tube rotates freely on its trunnions.
7. Trunnion caps fit snugly and are properly keyed.
8. Lids of Ammunition boxes and limber chests fit snugly, and are free of loose powder.
9. Wheel hub does not gouge the end of the axletree.
10. Linch pin is not digging into the wheel hub.

#### Equipment:

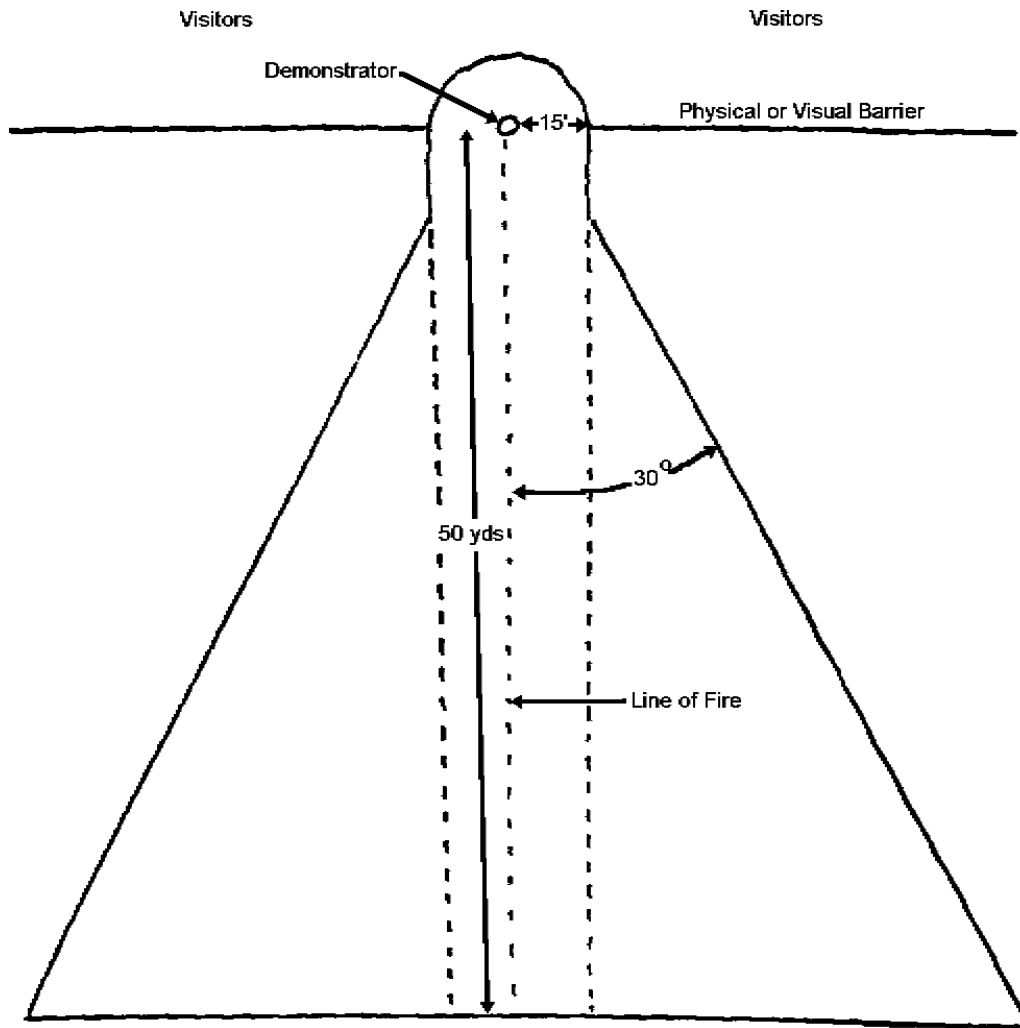
1. All necessary equipment is present.
2. Sponge is in good condition and is fitted to the bore.
3. Rammer head is secure and free of cracks.
4. Small items are in good condition (linstock, thumstall, buckets, etc.)
5. Prongs of the worm are sharp and not bent.

The Gun Book is kept up to date.

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### INDIVIDUAL DEMONSTRATION RANGE



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## ARTILLERY DEMONSTRATION RANGE

