

Safety Rules & Artillery Rules of Engagement Care and Maintenance For Artillery Field Pieces

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The Gun (Piece):

1. After each days firings, the bore should be thoroughly cleaned using fresh water. A mild pure soap (i.e., Ivory) may be used to facilitate the cleaning..
2. The vent and vent field should be cleaned using fresh water and a soft bristle brush.
3. Vents were originally .2" in diameter. A vent in excess of .3" in diameter should not be used. On reproduction guns, an extra vent piece should be purchased with the piece. Vents should be covered with an appropriate leather strap and vent hole cover when not in use.
4. Polishing and/or burnishing of original guns is prohibited, as this tends to obscure original markings.
5. Each piece should have a Gun Ledger and kept up to date. Notations on bore and vent diameters are to be updated at least annually.
6. A minimum gun crew shall consist of five people, of which only the powder monkey may be under the age of 16.

The Carriage:

1. In order to preserve the carriage, it should be stored in an unheated building when not in use. If the piece must be kept in the field, then it should be covered with a serviceable tarp to protect it from rain and dew and other type elements.
2. Paint is to be renewed as necessary (consider at least yearly).
3. Some checking of the wood is to be expected. Filling of cracks or checks should be done with a soft, elastic filler that will allow-expansion and contraction of the wood. Hard putty or similar products will sink into the cracks and act as a wedge as the wood breathes.
4. It is recommended that cracks on horizontal surfaces be filled, since they would allow water to soak into the wood, shortening the life of the carnage. 5. Be especially aware of cracks and checks on the cheeks and trail of the carriage since these areas receive the shock of recoil and travel.

Wheels:

1. Wheels are, perhaps the most critical and important part of the carriage. They should be tight and roll freely and straight.
2. The axle is to be greased as necessary, with a heavy lubricating grease. Care and maintenance in the field is encouraged, which adds to authenticity.
3. The spokes should give a musical "ring" when tapped with a wooded mallet. Flat sounds indicate the presence of rot. Spokes that move when grasped indicate shrinkage of the wood and the manufacturer should be notified for retightening or replacement.
4. Wheels should be rotated frequently in order to prevent rot on the felloes, especially if the piece is left in the field (outdoors) for long periods of time. 5. Any wheel that must be kept wet in order to maintain tightness is unsound, and should be repaired or replaced.

Ammunition Chest:

1. The inspection should be properly made, having non-sparking materials on the inside. All nails are countersunk and the heads puttied over.
2. The lid should fit properly and be provided with a serviceable lock. The chest is to be kept locked when not serving ammunition, and lid positioned away from the muzzle of the piece.
3. The chest is to be clean and free of spilled powder. All equipment and ammunition are neatly and securely stored in the chest.

Implements and Equipment:

1. Wooden implements should be free from serious cracks and splinters. Paint as necessary or sand for splinters and then hand rub with black wax, rub to gloss with a durable cloth.
2. Ensure that rammer and sponge heads are securely fastened with hardwood dowels and no sparking metals are used in the construction. During non re-reenactments (off season) it is a good idea to soak the sponge-head in boiled linseed oil, to minimize deterioration.
3. Leather equipment should be cleaned and kept free of dirt and loose powder. To preserve the leather Neatsfoot oil,

Lexol or other commercial leather preservative should be applied to prevent drying and cracking.

4. Sponges are to be cleaned after daily firing with clean water and 'spun out' to prevent matting. Since powder fouling deteriorates the fibers, sponges should be inspected frequently and replaced as necessary. In no case should a sponge be allowed to deteriorate to the point where there are loose threads and rotting of the material.

- Submitted by Company M, 1st Missouri Light Artillery, US Federal

MCWRA Artillery Safety Regulations

November 13, 1993

TOOLS AND EQUIPMENT:

Each gun (piece) will be equipped with the following required tools and equipment.

1. Water bucket - filled with a good measure of water, prior to engagement.
2. Sponges (1 or 2) - that fills the bore. The staff of sponge to be marked to show a full-length of insertion.
3. Rammer - should have NO metal parts to prevent sparking, and staff of rammer to be marked to show full-seat of charge.
4. Vent brush - should be stiff enough to clean the vent bore effectively.
5. Vent pick - made of non-ferrous metal, preferably brass.
6. Gimlet - or other appropriate device for removing failed primers.
7. Thumbstall - of leather and in good repair.
8. Haversack - of leather and in good repair. Only one (1) charge permitted to be carried to the piece, at any one time.
9. Gunners pouch - of leather and in good repair. To contain vent pick, primers and lanyard. Unspent primers to be returned to primer box.
10. Friction or percussion primers - of good quality.
11. Ammunition chest - with a stopping device attached that prevents the lid from remaining open, when released. All filled powder bags (charges) will be kept in the chest fitted with a locking device.
12. Ammunition chest (in field battery) - Will be placed 15 to 25 feet to the rear of the trail when piece is placed in battery.

TOOLS AND EQUIPMENT:

1. Primer box - made of metal (lined with wood or of non-ferrous material) accompanied with lid. All unspent primers will be returned to primer box after "cease firing".
2. Lanyard - of a length that will permit the gun to be fired, while standing outside of the wheel.
3. Worm - of good repair, adequate length and sharpness of points, in order to effectively retrieve residue.
4. Gauntlets - numbers 1 and 2 (when serving) shall at all times wear gauntlets extending over wrists.
5. Charges - maximum charges limited to 4 oz. of BLACK POWDER per 1 inch of bore diameter. Charges will be wrapped in a single-layer of heavy-duty aluminum foil. Will be stored in ammunition chest except when being delivered to the piece. The lid of the ammunition chest will be closed at all times except during removal of powder charges.

It is recommended that artillery charges NOT be prepared at the event site. Charges should be prepared and located in a locked ammunition chest PRIOR to arrival at the event. It is not recommended to bring bulk powder to an event.

SPECIAL NOTE (1) - If the gun crew wants to store black powder in plastic baggies (prior to wrapping), it is permissible.

SPECIAL NOTE (2) - However, if the gun crew obtains its bulk powder rations at an event and must wrap black powder charges on-site, every precaution should be taken to insure that no lighted objects are in the immediate area (i.e., cigarettes, pipes, lanterns, etc.). Spectators must be removed from the charging area, prior to wrapping powder.

6. Interval of guns - spacing of guns (in field position) will be a minimum of 10 feet (hub to hub).

LOADING PROCEDURE:

In accordance with the artillery practices of the Civil War. The following precautions will be observed:

1. All members of the gun crew will perform their duties while serving the piece, at a walk.
2. The Gunner will regulate the rate and correctness by which the gun crew serves the piece. He will halt and correct any improper movements or sequence in loading.
3. The vent will be brushed once every three rounds (minimum interval), before the bore is wormed and sponged.
4. The bore will be wormed, sponged thoroughly with water and visually inspected after firing each round. Care must be exercised not to sponge in such a way that a pool of water will be left in the chamber to soak up into the powder and form a glowing coal. During sponging, the sponge must be given two full turns while held firmly against the bottom of the chamber. Number 1's thumbs MUST NOT be wrapped around the sponge staff.
5. The vent will be stopped with a leather thumbstall from the time the sponge enters the muzzle until the rammer is removed from the bore after the charge has been rammed. Again, Number 1's thumbs MUST NOT be wrapped around the rammer staff.
6. In the event of a misfire (for any reason) the command is given "Do not advance the primer has failed" At this point the No.1 and No.2 shall cross implements over the piece as a clear indication of the misfire. With this the crew shall go into the proper failed primer drill after a minimum of a 3 minute wait. During this time the cannon shall not be left unattended or moved.

OVERALL ARTILLERY SAFETY OFFICER OR DESIGNEE:

A Safety Officer will be assigned who is familiar with artillery safety requirements. The duties are as follows:

- 1 Inspect implements, powder charges prior to firing and make certain that all comply with established safety rules.

OVERALL ARTILLERY SAFETY OFFICER OR DESIGNEE:

1. Observe loading and firing procedures.
2. In the event a gun misfires three (3) times in succession, he will order "CEASE FIRE" and cause the crew to flood the vent and bore with water.
3. Rate of fire - shall be no faster than one (1) round every minute (at a maximum), until ammunition is expended, or until action is halted.
4. Loaded artillery piece - when approached by Infantry and/or Cavalry, the gun crew will "cross" their rammers and worms above the bore of the piece, indicating that the piece is "loaded and unsafe to approach". Also, the piece should be "unprimed" and the vent "thumbstalled."
5. Emergency "STOP ACTION" - when an emergency occurs such as, a gun crew member(s) being hurt, the battery officer or ranking NCO will not hesitate to stop the engagement, by displaying a "green flag" and "blowing a whistle" loud enough to gain attention of other unit commanders.
6. MCWRA Artillery Safety Regulations - will be kept in ammunition chest, read and disseminated (on-site) to all gun crews. The Safety Officer (or designee) is responsible for this action.

OTHER SAFETY RULES:

1. No smoking or drinking alcoholic beverages within 25 feet of any piece. Any crew member showing signs of the effects of alcohol or other drug should be replaced.
2. Both sides shall place easily observable markers on the field denoting the artillery safety ranges of 50 yards in front and 30 yards on the flanks.