

Bylaws of the Washington Civil War Association

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Section N. WCWA Safety Rules

Preface

1. This document covers the care, use, and storage of the small arms (i.e.: rifles, muskets, carbines, shotguns, and pistols), artillery, ground charges, air bursts, signaling devices, edged weapons, and horses (or mules) used in the events sponsored by or sanctioned by the Washington Civil War Association. Whenever these items are being used, the user must remember that they are all potentially dangerous items if not handled correctly. We are attempting to portray a lifestyle and activities which are inherently dangerous. While we have attempted to cover most situations, it would be impossible to cover them all. Therefore, individuals must exercise their own common sense at all times.
2. Since we are dealing with potentially dangerous weapons and activities, we have developed procedures concerning battlefield tactics and camp life. We have done so because it is our intent to provide a safe and enjoyable experience for every member of your family. All activities must be carried out with the understanding that safety for yourself and your comrades is the first priority. Ultimately, you are responsible for your own safety!
3. All participants in WCWA sponsored or sanctioned events must have completed and passed a safety test if they intend to use, carry, or store any of the items covered under these safety rules. Mounted riders have an additional skills test they must have passed to enable them to bring and ride a horse at events. Unit commanders or their safety officers are required by the WCWA to keep the completed safety tests of all members of their unit. These tests should be dated and scored and filed for easy access in the event a question should arise.

General Behavior Rules

1. All members of a reenactment unit must acquaint themselves with the safety rules. It is the responsibility of their company commander to ensure that they do so. Safety is the first priority of the club.
2. The consumption of illegal drugs and/or legal, nonprescription cannabis products is prohibited at WCWA events.
3. Legal consumption of alcoholic products is prohibited at WCWA events except after the last battle engagement of the day, after all weapons are secured, and after the public has departed, provided such legal consumption of alcoholic products is permitted by event coordinator, property management and/or property owner, local law, and state law.
4. Prescription drugs may be taken in accordance with law. Prescription cannabis may not be smoked in the camp area.
5. Any individual found to be under the influence of drugs or alcohol, in violation of the rules set out in #2 through #4 above, shall be suspended from the day's activities and will be disciplined.
6. Smoking is absolutely prohibited:
 - a. While handling black powder in any form.
 - b. After muster for battle has been called.
 - c. During battle.
 - d. After battles until all weapons have been cleaned and secured.
 - e. Within 25 feet of ammunition boxes or chests.
7. To avoid unnecessary conflict, at no time will a member pick up another member's weapon without permission of said member. The only exception will be if it is evident that the member lost the weapon. In this event, the weapon shall be turned over to the appropriate command headquarters immediately.
8. Any verbal provocation or physical abuse with malicious intent by any member towards another is strictly prohibited and is grounds for immediate expulsion from an event.

9. Any violations of the established Safety Rules are subject to disciplinary action, which may include exclusion from that, or subsequent, events or expulsion from the WCWA.
10. At no time will a firearm be discharged at anyone, except at a range of at least 50 feet.
11. All rules and regulations of the host parks, recreation districts, property owners, etc., shall be obeyed without question, subject to negotiation and amendment to coordinate with the rules and regulations of the WCWA prior to the event or activity.
12. Absolutely NO fireworks are allowed at any WCWA event without approval from the Board of Directors.
13. Absolutely NO ball ammunition (either Minie or round) shall be brought to the capping and clearing area or to the battlefield.
14. No weapons (sidearms, longarms, bayonets, knives, tomahawks, etc.) will be brought to any military ball except dress swords and sabers. Dress swords and sabers will not be worn on the dance floor.
15. The minimum safe distance of an open fire is 6 feet from any tent or awning.
16. A bucket of water or fire extinguisher must be accessible at every campfire.
17. Open flames (candles and campfires) must be attended at all times.
18. Vendors must have a fire extinguisher in their tents.
19. Weapons must not be carried while on night watch.

General Battlefield Rules

1. The event coordinator and Battalion/Legion commanders have overall responsibility for safety at events. They may delegate the enforcement duties to Safety officers.
2. No person under the age of 12 will be allowed on the battlefield. Ages 12-13 can be on the battlefield as a non-combatant, i.e.: color bearer, musician, courier, etc. Ages 14 and above can carry a weapon and be considered a combatant.
3. Weapons shall not be fired without the unit commanders' permission. Cap firing does not require permission, but must be done in the designated capping and clearing area, and away from the public.
4. Because of the recognized dangerous nature of capping and/or discharging weapons in or around camp areas, the Battalion/Legion commanders will designate and mark a specific area for the clearing and firing of weapons between battles. This area will not be on the battlefield, since the battlefield is a main show area for other activities. All malfunctioning, loaded firearms will be handled in this area only.
5. All long arms will be cleared at the end of each battle. Pistols may be carried loaded as long as they are not removed from the person or left unattended for any reason. All weapons will be cleared after the last battle of each day.
6. Minimum safe distance in front of a longarm or side arm is 50 feet. Minimum safe distance in front of an artillery piece is 75 feet.
7. Discharging of a weapon is prohibited within 50 feet of Powder Boxes.
8. Frontal charges on a loaded cannon are prohibited. A cannon is loaded when the rammer is positioned upright on the wheel hub.
9. Skirmishers may not fire from a prone position unless choreographed and with Company and Battalion Commanders permission. Those who are wounded may never fire from the prone position.
10. Mounted cavalry should maintain at least 50 foot intervals between infantry or artillery troops, being especially careful of simulated casualties. When working in areas where men are casualties, action is confined to a walk.
11. Pistols may be loaded at any time during the day, but they may not be capped until just prior to assembly for battle.
12. If a horse should become loose on the battlefield or in camp you should not try to assist or approach the horse unless instructed to by a cavalry member or Trooper.
13. Any member may call a **CEASE FIRE** at any time if the member witnesses an unsafe act or unsafe condition. A cease fire and a hold on all movement will occur if any unauthorized person, such as a spectator, comes onto the field during a battle, if that person cannot otherwise be readily controlled.
14. If a real injury occurs during a battle that requires immediate medical attention, any member may yell **MEDIC** to call attention to the emergency. The word **MEDIC** is not to be used in any other case except that of an actual medical emergency. First aid should be summoned as soon as possible with the least amount of fanfare. Commanders will move all action away from the injury. Non-participants (I.E.: photographers, artists, etc.) are not allowed on the field of battle except by express permission of both Battalion Commanders.
15. Any unit not represented at the official Battalion Commander's Battle Planning Meeting may not participate in that battle under their own command, except by prior agreement with their respective Battalion Commander.

16. Skirmishes, battles and raids are prohibited at public events except when coordinated between both Battalion Commanders and the event coordinator or site host. At backcountry tactical events, raids may be expected 24 hours a day.
17. Any firearm with a barrel length of less than 39 inches shall not fire from the rear ranks, except if the front ranks are in the kneeling position.
18. Pistols and rifles will not be carried at full-cock during a charge.
19. All unit commanders and mounted riders shall make note as to the location of ground charges concealed on the battlefield.

Weapons Safety Rules – General

1. All weapons must be clean and in good repair prior to use.
2. All weapons and ammunition shall be inspected by the individual Company Commanders each morning of every event prior to the first battle of the day. Any weapon found to be unserviceable (i.e.: cracked stock, malfunctioning lock, etc.) shall be banned from the field. Any weapon found to be rusty or fouled shall be cleaned prior to use. The Battalion Commanders have the authority to spot check any company at their discretion.
3. All weapons shall be cleaned at the end of each day. The ramrod should make a definite "clink" in the barrel.
4. It is recommended, time permitting, that barrels be rinsed out and dried after each battle. Fouling in blank firing is severe and large flashes will travel greater distances as the core diameter is reduced.
5. Weapons shall be loaded only at designated times before each battle or demonstration, and at no other time when the public is present.
6. Absolutely NO item which can readily fit down the muzzle shall be permitted in the cartridge box. A nipple pick is permitted if it cannot be carried in the cap pouch.
7. Blank cartridges must be carried in a leather cartridge box.
8. Loose percussion caps shall not be carried with any powder or cartridges.
9. Pyrodex and smokeless powders are expressly prohibited.
10. Weapons shall not be readily accessible and unattended while the public is present during an event.

Weapons Safety Rules – Specific

Longarms

1. The only powder acceptable for loading longarms (rifles, muskets, carbines and shotguns) is black powder with a rating of FFg or FFFg.
2. During loading, no part of the loader's body should be in front of the muzzle nor should the weapon be inclined towards another person.
3. Absolutely NO ramrods will be drawn during battles. Ramrods may be used in firing demonstrations when no opposing troops are present, and then only under close supervision.
4. Longarms may never be loaded from powder flasks or horns.
5. Charges for longarms must be made up in paper cartridges that conform to the Civil War period. Cartridges must be made prior to the battle and will contain no more powder than prescribed in the table below. No staples, glue, or tape may be used in making the cartridges. Only cotton, linen or silk thread is acceptable for binding cartridges. Cartridges for longarms other than muskets must be pre-made using methods and materials appropriate to the particular longarms requirements. Case type cartridge wadding materials shall be the same as for pistols. Paper cartridges must be made of fully combustible materials (nitrated paper, or easily consumed recycled paper).
6. The maximum size for longarm cartridges is as follows:
 - .69 caliber-80 grains
 - .58 caliber-70 grains
 - .54 caliber-70 grains
 - .50 caliber-60 grains
 - .45 caliber-50 grains

Pistols

1. The only powder acceptable for loading revolvers and other pistols is black powder with a rating of FFFg or FFFFg. Single shot pistols shall be loaded with no more than 40 grains of powder and will otherwise be treated as longarms.
2. There are only two proper and safe revolver loads recognized by the WCWA. They consist of:
 - a. Black powder, foam wadding, then grease - in that order.
 - b. Black powder, then Cream of Wheat - in that order.
3. If foam wadding is used, it must be composed of a substance which easily crumbles between the fingers (I.E.: Florist's Foam). Styrene (I.E.: disposable cups and meat trays) and hard Styrofoam are not acceptable and are therefore prohibited. Paper wads, cloth wads, wax and "Wonder Wads" are also prohibited.
4. Grease, when used over wads, must be specifically designed for blackpowder shooting, I.E.: "Spit-Ball" or "Spit-Patch", etc. Crisco (or other such materials) is prohibited because it will melt and lose its seal.
5. Revolvers may also be loaded using approximately 1/2 black powder and 1/2 Cream of Wheat per cylinder charge. The powder is poured first and the space above filled with Cream of Wheat, pressed tightly with the loading lever. No grease is required with this method as the Cream of Wheat has enough oil in it to stay compressed.
6. Powder flasks and horns shall not be used on the field except at backcountry events, and only for the loading of revolvers.
7. Those using revolvers may carry extra uncapped cylinders provided they are properly wadded and carried securely in a leather pouch and with the approval of the Battalion/Legion commander.
8. All pistols must be carried in leather holsters when loaded.
9. Mounted troops May carry pistols in pommel holsters.

Sabers, Swords, Bayonets & Knives

1. Edged weapons will only be drawn upon the orders of the Company Commander. Sabers will only be drawn with Mounted Safety Officer and Cavalry Commanders approval.
2. No bayonets shall be unsheathed or fixed during battles, unless prior approval by both Battalions and rehearsed prior to battle.
3. All sabers, swords and bayonets will have dull edges.
4. Knives will not be drawn on the battlefield, and will be tied into their sheaths in such a way that they cannot fall out if turned upside down.
5. Hand-to-hand combat will be permitted only by prior permission of the Battalion/Legion commanders, notification to all engaged units, and REHEARSED by all units and persons involved.
6. Combatants cannot advance for hand to hand combat if their weapons are loaded.
7. Cavalry sabers may be attached to the left side of the saddle between the sweat leather and the stirrup fender.

Muzzleloading Rifles, Muskets, Musketoons, Shotguns and Breechloaders

Definition

For the purposes of the WCWA, muzzleloading rifles, muskets, musketoons and shotguns are defined as those weapons which are loaded from the muzzle and are ignited by a percussion cap. Weapons with a flintlock ignition are permitted only with the Battalion/Legion commanders express permission.

Blank Firing

Ammunition

Only commercially manufactured black powder rated at FFg or FFFg may be used. Pyrodex or smokeless powder is expressly forbidden.

Storage of Ammunition and Components

Made-up cartridges, caps and black powder should be stored in a cool, dry place that is secure from access by children or the public, safe from flame or fire or other source of high temperatures.

Caps must be stored in their original container. They may not be stored in glass jars, paper boxes or other unsafe containers.

Loading the Weapon

The following procedure for loading a weapon assumes that the cartridges are

carried in a cartridge box, caps are carried in a cap pouch and that this is the first time the weapon is being loaded prior to a firing event. In other words, you are not in the middle of a battle.

Before Going Onto the Battlefield

Check Barrel for Blockages

1. Muzzleloaders: Make sure the barrel is clear of debris by wiping out the barrel with a cleaning patch and by “sounding steel”, I.E., dropping a ramrod in the barrel from about 4 to 6 inches from the breech. If there is no obstruction or debris you will hear a ringing sound, not a “clunk”.
2. Breechloaders: Drop the breechlock or open the gun and visually examine the barrel and the breech for fouling, debris and obstructions. Remove any and all residue or debris. Check Touch Hole for Blockages.
3. All Longarms: 'Capping Off' your weapon, make sure the touch hole is clear of obstructions by placing a cap over the nipple, and with the muzzle near the ground, discharge the weapon. Watch for movement of grass or dust caused by gasses being expelled from the muzzle. You should also learn to hear the sound of a clear bore.
4. Fixed Primer Rigid Cartridge Guns. Guns firing a rigid cartridge with a fixed primer must have their firing pins checked to verify that they are free-floating, i.e.: they are not fouled or frozen into place.
5. *Secure Ramrod* Make sure the ramrod is secure in its proper carrying position.
6. *Secure Bayonet* Bayonets should be secure in their scabbards and the scabbard firmly attached to the waistbelt.

At This Point You Are Ready to Go Onto the Battlefield

All Weapons

The following procedures are to be followed during battles and living history demonstrations at all WCWA sponsored or sanctioned events.

1. Repeat Firing: Follow the procedures given by your company commander for loading the weapon. To help prevent premature ignition, do not remove the expended cap until ready to re-cap, i.e.: until after the powder has settled.
2. Malfunctions on the Field: If your weapon fails to discharge, with the muzzle pointed in a safe direction (preferably with the muzzle pointed up), remove the failed cap or cartridge and replace it with another.
 - a. If the weapon fails to fire for a second time repeat step 1,
 - b. If you can safely leave the line, find an area free of other safety concerns and use a nipple pick to clear any fouling from the nipple. Try again to discharge the weapon. At all times, while working on a weapon that has failed to discharge, the barrel of the weapon must be pointed in a safe direction.
 - c. If, after three attempts, your weapon still fails to discharge, dump your powder and become a casualty.

Ammunition Preparation in Camp or at Home

When preparing cartridges in camp or at home, the following procedure should be followed:

1. Use only FFg or FFFg (FFFFg can be used for pistols) black powder from an authorized commercial source.
2. Powder should be sifted through a sieve with openings no larger than ordinary window screening. This is to insure that there are no foreign objects in the powder.

Discharging A Weapon in Camp

Discharge of weapons in any camp area is only allowed with permission of the Company Commander and the WCWA Battalion Commander, and only in a choreographed scenario.

Cavalry Safety Rules

1. A WCWA Equine Safety Committee shall exist to evaluate all current and proposed cavalry and horse drawn vehicle (HDV) unit certifications. The committee will be composed of members of the WCWA who have equine experience or have a need for equine. This may include cavalry unit safety officers and HDV unit safety officers who wish to participate.
2. The owner of a horse is legally responsible for the actions of that horse unless other arrangements through liability contracts or rental/lease agreements have been made. No horses will be allowed on the battlefield until the rider and the mount have passed a yearly riding certification that has been approved by the Equine

- Safety Committee. The certification process will be administered by the respective unit's safety officer. Each battalion commander or their designee is responsible to ensure these rules are followed and that records (Safety Test Verification forms and HDV Driving Safety Test forms) are maintained by the respective equine unit.
3. No horse shall be allowed at an event without its horse equipment used in a safe, humane and correct manner. A "quick-release" knot will be used to tie horses by their halter lead. Horses shall never be tied by their reins. Linkstraps shall be fixed to the halter, not the bit.
 4. A mounted safety officer for each cavalry unit should be the most knowledgeable member of that unit on horse safety, training, riding and trooper instruction and report to the unit commander any dangerous practices, equipment, horses or riders. They both shall report difficult or unresolved problems to the respective battalion commander.
 5. Horses may not be left unattended in camp. A horse guard shall be posted while the public is present. A night guard may be posted to watch the picketed horses and the camp at the discretion of the company commander.
 6. A safety inspection for cavalry shall include all weapons and tack used and all items carried onto the battlefield. The horses' hooves shall be inspected for loose shoes or lodged stones.
 7. The use of stallions is not encouraged unless the unit desiring to employ one agrees to take full responsibility for its actions and there are no objections from the other horsemen who have their mounts at the event. The concern here is not just that the horse is well-trained but picket line safety and the fact that mares are present.
 8. Picket lines are to be kept taut. Saddled mounts should be tied so as to keep the saddle from catching the picket rope. Individual picket pins are discouraged and if used must be kept away from camp and watched by a guard at all times. Free roaming horses (not on a picket pin or picket line) are discouraged.
 9. Mounted cavalry should maintain at least 50 foot intervals between infantry or artillery troops, being especially careful of simulated casualties. When working in areas where men are casualties, action is confined to a walk.
 10. Mounted cavalry should not fire at less than a 60 degree angle from their horses ears and be aware of the location of other troopers and horses around them.
 11. Horses should not be chased if loose. They should be hazed in a non-threatening manner towards other horses or their camp picket line. Event planners should not site spectator crowds between the battlefield and the camps.
 12. A gentle horse may be touched by the public in a controlled situation such as a talk or demonstration given by a knowledgeable trooper and with the permission of the mounted safety officer.
 13. A loose sling-snap must be pushed under the mounted troopers saber belt and not left dangling.
 14. Use of drawn sabers while mounted during battle requires extreme caution and must be authorized by the cavalry commander and the mounted safety officer after an approved script has been practiced.
 15. Any object being pulled by a horse, donkey, mule, or pony is considered a horse drawn vehicle (HDV).
 16. An HDV unit is a team comprised of 1) driver/rider, 2) animal(s), and 3) object being pulled. If any of the three items are changed or substituted, then the new team must be tested.
 17. For any HDV team to be at a WCWA sanctioned or sponsored event, the team must pass a yearly certification test approved by the Equine Safety Committee and documented on a WCWA HDV Driving Safety Test form and WCWA Safety Test Verification form. The test will be administered by the HDV unit's safety officer.
 18. Any new HDV team will be mentored by an established HDV unit; if no HDV unit exists, any cavalry unit may mentor the HDV team until the HDV team is deemed safe to operate for their intended use.
 19. When an HDV is in use during a battlefield scenario, a safety zone of 25 feet shall be established while the HDV is under motion. The HDV shall not be fired on nor attacked within the safety zone, while under motion. For example, a drawn artillery piece that is underway has a 25 foot safety zone. Once the artillery piece stops, it may be captured or attacked. Scenarios may preempt this rule if approved by the units involved, the Equine Safety Committee, and battalion commanders.
 20. HDV will not be unattended when horses are attached.
 21. Around the public, while parked, HDV must be chock-blocked and/or have a brake engaged. Around the public, while moving, a minimum of one out-rider is required.
 22. Safety always takes precedence over the correct way of doing things with mounted troops or HDV, should a conflict arise.

Artillery Safety Rules

Definition

For the purposes of the WCWA, artillery is defined as any form of cannon, howitzer, mortar, or other firearm whose original (full-sized) bore is greater than 1.5 inches. In this document, the terms “artillery” and “cannon” shall include all forms of these weapons.

General Rules

1. All artillery tubes and carriages in the WCWA will be full scale and of period design and construction.
2. The minimum distance required between guns is determined by the area required by the gun crews to work the guns safely as determined by the Senior Experienced Gun Officer and/or the Ordinance Sergeant. A spacing of at least 20 feet, hub to hub, between artillery pieces is suggested.
3. The safe placement of artillery is the joint responsibility of the Artillery Commanders and the Battalion Commander.
4. Artillery pieces must have a minimum crew of four persons to fire. When possible the larger guns should have a crew of six. The need for a larger crew will be determined jointly by the battery commander and the Battalion Commander.
5. All artillery must have the required equipment on site and be in a safe condition prior to firing. Improperly equipped or unsafe artillery will be removed from the field.
6. No projectiles or wadding of any kind are to be fired unless prearranged and approved by the Battalion Commander with concurrence by the Board of Directors.
7. At no time will any object or material be fired from a cannon if that object or material will pass over the safety boundary or travel more than 75 feet, and thus endanger the participants and/or spectators during any WCWA event.
8. The artillery ammunition box will be placed 25 feet to the rear of the respective cannon and a minimum of 45 feet from the spectator's line. The lid hinge must be nearest the cannon.
9. The artillery ammunition box is to be constantly manned whenever unlocked. When the box is not in use it is to be removed from the field and placed in a secure location.
10. Ammunition boxes must be fitted with self-closing lids. Lids may not be fitted with any type of hold-open device nor may they be propped open by any external means, such as a stick, branch, etc.
11. Artillery powder charges are to be kept within the ammunition box until ready to be used. When ready to transport a charge from the ammunition box to the cannon muzzle each charge must be placed in a leather haversack. The charges are then carried to the cannon where they will not be removed from the leather haversack until they are to be placed in the cannon muzzle.
12. The thickness of the foil wrapper for the cannon powder charge is the responsibility of the Battery Commander, giving the highest regard and consideration for the safety of his crew, other crews and the public.
13. Before each WCWA event, any new artillery, participating for the first time at a WCWA event, shall be inspected by both Battalion commanders. Battery commanders from any battery present may participate in this inspection if they desire to do so. Each artillery piece must successfully pass the safety inspection before being allowed to fire in any event.
14. After loading any gun, the artillery crew will place the rammer on the wheel hub (in the case of a larger gun) or on the top of the wheel (in the case of a smaller gun) to indicate that the gun is now loaded and ready to fire. Artillery batteries will post a red safety flag to mark a misfired gun.
15. The maximum size of an artillery powder round is determined by the size of the bore.
16. When servicing the piece thumbs of cannoners #1 & 2 shall be pointed down range at all times.
17. Crew members who handle implements must wear gloves.
18. When swabbing the piece the sponge should be damp.
19. If a piece fails to fire after repeated tries the crew will wait 3 minutes and service the piece per the unit's misfire procedure.
20. The rate of fire for artillery pieces is at the discretion of the artillery unit commanders.
21. When an implement or powder charge is put into the tube of the piece the crew shall ensure the breach vent is covered.

Ground Charges, Aerial Burst, and Aerial Rocket Safety Rules

1. It is the responsibility of the Engineer Corps to place the ground charges and to see that the aerial bursts are clear of trees or other overhead obstructions. Personnel who have not attended the morning safety meeting may not set charges or operate the ignition box except by special permission by the Safety Officer.
2. Ground charge tubes and aerial burst tubes will be placed in a safe manner, secured to the ground and marked. The wires are to be secured to the tubes. Remote control igniters are to be used to eliminate wires strung on the ground.
3. A safe distance from an exploding ground charge is five (5) feet. A safe distance from an aerial burst being fired is twenty (20) feet. Ground charge tubes will be identified by the color yellow and aerial burst tubes will be identified by the color red. Do not look directly into the tubes or touch any part of them or the wires.
4. Special Effects Interaction with the ground charges by troops on the field must be approved and coordinated between the Engineer Safety Officer, the Commander of the Engineers and the Battalion Commanders. All Special Effects Interactions must be rehearsed and approved by an Engineering Safety Officer.
5. The Engineer Corps shall have approved firefighting equipment available in case of fire. Equipment may consist of Forestry Approved Water Pumps, shovels, or Pulaskies.
6. Nothing shall be fired from the ground charge tubes that could affect anyone outside the 5 ft. safety area except for Special Effects Interactions (See #4 above). If aerial bursts are used, ground forces should watch for falling debris.
7. When ground charges are in place on the battlefield an Engineer shall stand watch at all times. If he/she must leave the area for his/her own safety, the ground charges shall be made inoperable. Any artillery position changes on the field should be coordinated with the Engineer nearest to the battery so that he/she does not fall within their 75 ft. field of fire.
8. The only objects besides the powder charge and igniter in the ground charge may be sifted flour or peat moss. Peat moss and/or grass are used only in open pans for special effects.
9. Aerial rockets may not be used.
10. The number of charges that are transported onto the battlefield should be sufficient to carry through the battle, including salutes, and will be decided upon by the Event Coordinator and the Engineers
11. The Engineering Safety Officer shall supervise the placement of the ground charges and be present during the battle. Proper sequence for setting up a ground charge is:
 - a. Place ground charge tube in a location approved by an Engineering Officer and fasten it securely to the ground to prevent it from being accidentally disturbed and if not painted a distinctive color, mark its position with a Ground-charge flag;
 - b. Connect ematch to black powder ground charge **BOTH WIRES MUST BE CONNECTED TOGETHER**;
 - c. Place charge in tube and secure wire to tube, before charging tubes person in charge **MUST** have possession of remote detonator and maintain its possession until the end of the battle or until all charges are fired or secured;
 - d. Place colored tape over the tube to show charge is loaded; and
 - e. Once all charges are placed, connect separate wires to remote boxes and arm the box.
12. Each ground charge pack should be 2 oz. of black powder.
13. If a misfire occurs verify the wire is connected to the remote box, then try again. If a second attempt fails, disconnect wire from the remote box and check it out after the battle. If reloading, check the tube first.
14. After the first battle of the day check to make sure there are no smoldering patches of grass, paper or other debris, take tubes back to camp or place in a secure position on the field. After the last battle of the day, retrieve the tubes, fill any open holes, and after checking to make sure there are no smoldering patches of grass, paper or other debris, return to camp. Return any unused ground charges to the Officer in Charge.
15. The Engineer Safety Officer may make changes to or grant variances of the Engineer Safety Rules on an individual basis when he or she feels they are necessary to insure the safety of the participants and spectators.

*** END ***