

UNIVERSITY OF TOLEDO

SUBJECT: CANNON SAFETY PROCEDURE

Procedure No: S-08-050

PROCEDURE STATEMENT

Cannon safety procedures, as defined by this plan, shall be followed by anyone operating the cannon on any University of Toledo Campus.

PURPOSE OF PROCEDURE

These procedures have been established to ensure the safe operation of the cannon on campus. The purpose of this program is to establish requirements for operating the University's cannon to minimize the probability of personal injury and property loss. The Environmental Health and Radiation Safety (EHRS) department reviews this procedure periodically and updates as needed.

RESPONSIBILITY

This program applies to all employees and students operating the cannon on University properties. The University's cannon is operated by the Pi Kappa Phi (PKP) Fraternity at the UT Main Campus Glass Bowl Stadium during home football games.

Use of Approved Fire Arms

The following safe shooting procedure presumes the crew is firing blanks from muzzle loading artillery piece made to modern safety standards. Only use new bronze cannon purchased from Gillmor Ordnance and never the historic old cast iron cannon. Annual training is required for all PKP members involved with the cannon by the cannon manufacturer Bob Gilmore and an EHRS representative.

Safety Zone

The cannon will be used on the top of the North East (N/E) tower as this will serve a safety zone between the spectators and the cannon. No one is to be forward of the muzzle at any time. Only PKP members are to be in this zone unless escorted by a

- Vent brush or cleaning device.
- Vent pick.
- Thumb stall.
- Heavy welders or fireproof gloves.
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- Safety glasses
- Information pertaining to who to contact in an emergency (University of Toledo Police Department).

Storage of Ammunition

The University of Toledo Police Department (UTPD) will store the charges and bring to the Glass Bowl. UTPD will count the rounds both before and after the game to ensure that they are all accounted for.

PROCEDURE

I. Clean the Vent

Clean the vent as the first step in each cleaning, loading and firing sequence. Proceed as follows:

- Use a .22 caliber or appropriately sized bronze cleaning brush on a suitable rod and brush the entire vent twice.
- If no brush is available, the alternative method is to run the priming pick or gimlet up and down the vent twice, twisting to make sure the vent is completely free of powder bag remnants.

II. Stop the Vent

Seal the vent with thumb pressure during the entire cleaning and loading process. This means no air should escape the vent from the time the worm enters the muzzle until the rammer is removed after the projectile has been seated. Use a leather thumb stall or heavy glove to protect your thumb to protect your thumb and make a tight seal.

III. Worm the Bore

Using a tool with two sharp steel points which replicates an original cannon cleaning worm, worm the bore until all debris is removed. Turn the worm at the breech to pick up any powder container remnants and to loosen any powder residue. The worm should fit closely so the points will pick up debris easily.

IV. Wet Sponge the Bore

- Sponge with a wet (but not sopping) tight-fitting sponge with a head of lamb's wool or wool carpeting over a wooden cylinder affixed to a shaft at least one foot longer than the bore. The end of the sponge head should conform to the shape of the breech plug.
- Seat the sponge against the breech with hand pressure and give two full rotations of the shaft. Withdraw the sponge half-length, twist, then reseat against the breech and give another two full rotations.
- Remove the sponge. If any powder container remnants or unburned powder comes out with the sponge, repeat the entire process, starting with Step III Worm.

V. Dry Sponge the Bore

After wet sponging, the same procedure is used with the dry sponge. The dry sponge is cleaned and dried off periodically with an absorbent towel-type rag. (The purpose of the dry sponge is to remove excess moisture from thio moeree e0.7 (h)0.

- B. Mark the rammer in advance in two places, one to show the amount of shaft which should be sticking out the muzzle when the charge is seated and the other to show when the projectile is seated.
- C. The ammunition chest should be located downstairs. Powder charges should be prepared in advance by Gillmor Ordnance only and will be wrapped in heavy-duty aluminum foil.
- D. Open the chest only long enough to remove one charge in its safety container. (Do not open chest following warning that a gun is about to fire until 10 seconds after that gun has fired to prevent hot vent debris from falling into the chest.)
- E. Carry charge upstairs to gun in fireproof safety container. Do not proceed to load unless 3 minutes has elapsed since the gun was last fired. Check your watch.
- F. Open safety container. Remove foil-wrapped charge and place it in the muzzle with one hand while wearing heavy leather gloves (see above).
- G. Wearing heavy gloves, stand to the side of barrel with as much of your body as possible behind the plane of the muzzle. Grasp rammer **underhand, with one hand, thumb to the side**. Seat the charge lightly with smooth strokes. Do not pound the rammer against the charge.
- H. Immediately upon feeling the charge reach the breech, drop your hand away, releasing the rammer. After 10 seconds and after ascertaining the charge is fully home (according to the rammer marks) remove the rammer, **one hand, underhand, thumb to the side**. This may require grasping and releasing the shaft a few times. **Never two hands on the rammer**.
- I. Upon completion of loading, person ramming shall indicate to the person holding the vent that the gun is fully loaded. The vent may then be released.

VII. Pick the Charge

- A. To insure ignition, pick the powder charge wrapper through the vent with a pick or gimlet held by the shaft, between glove protected fingers.
- B. The pick shall be constructed of a non-sparking material.

VIII. Prime

- A. Place a shotgun primer in vent – prepare to fire cannon.
- B. Hot debris is apt to be blown out the vent on discharge. Crew members should wear hats and safety glasses.

