



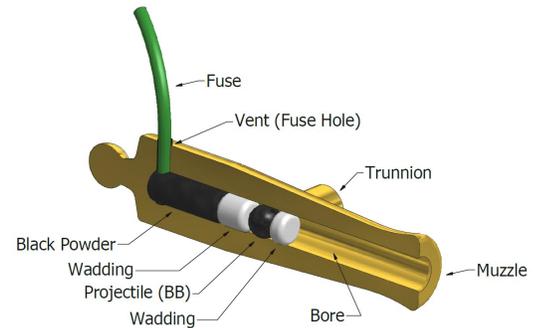
Miniature Cannon Technologies LLC.

MINIATURE CANNON SAFETY, FIRING INSTRUCTIONS, AND MAINTENANCE

Congratulations on acquiring your Mini Cannon Tech miniature cannon! Here you will find detailed, step-by-step instructions for loading and firing your miniature cannon, as well as care and maintenance tips. First and foremost, NEVER under any circumstances point the cannon at yourself or any other person EVER! Due to the nature of this activity, extreme caution must be used at all times! Read and understand each step completely before attempting the step. Use common sense, take your time, and if you have any questions or concerns about any of these instructions or materials, please call us at (484) 819-0492 or send an email with any questions you have to alex@minicannontech.com

Materials Needed

- Miniature Cannon
- Safety Glasses
- Black Powder (3f or 4f) or Black Powder substitute (3f or 4f equivalent) NO SMOKELESS POWDERS!
- Ramrod (included)
- Cotton swabs (Q-tips®)
- Paper towel for wadding
- Cannon fuse or firecracker fuse (1.8mm diameter or less)
- Small funnel or folded piece of paper
- Steel or lead .177cal BB for projectile (optional)
- Fire starter
- Pipe Cleaner or 5/64th inch drill bit



FIRING INSTRUCTIONS

- Step 1:** Put on your safety glasses! Double check that the bore of the cannon barrel is completely empty, clean and dry by inserting a Q-tip® all the way into the barrel and extracting it. Examine the Q-tip® for debris or black powder residue. Repeat until the bore is completely clean. Clear the vent (fuse hole) of any debris using a pipe cleaner or a 5/64th inch drill bit (Do not use a power drill to spin the drill bit. Twist the drill bit with your fingers).
- Step 2:** Insert at least an inch-long piece of cannon fuse or firecracker fuse into the vent. You can also use the fuse from a bottle rocket. Make sure the fuse is fully inserted into the bore. Verify that the fuse is fully seated by inserting your ramrod into the barrel and tapping the inserted section of fuse inside the bore. You should see the fuse wiggle when the ramrod touches the bottom of the fuse. It is very important that this is done before the black powder is poured in, to help prevent misfires. Tip: Use sharp scissors when cutting the fuse to help prevent fraying. It may also help to twist the fuse as it is inserted to properly seat the fuse. Debris in the vent can make inserting the fuse difficult or impossible. Use a pipe cleaner or a 5/64th inch drill bit to remove debris from the vent if need be.
- Step 3:** Measure out approximately 5 grains (about the size of a pea or 1/16th of a teaspoon) of black powder or black powder substitute and pour it into the muzzle of the cannon with a funnel. You can also use a piece of paper folded lengthwise as a funnel. Use your ramrod to check that the level of black powder is between the trunnions (supports that the barrel pivots on) and the vent to verify that the barrel is no more than half full of black powder. Immediately close your black powder container. Tip: An empty .22 caliber LR bullet shell will measure out almost exactly 5 grains of black powder when used as a powder scoop.
- Step 4:** Tear off a piece of paper towel about the size of a quarter, roll it into a tightly compressed ball in your fingers, and insert it into the muzzle. Use your ramrod to push the wadding down the bore. Push the wad up against the black powder to get rid of large air pockets in the black powder. Do not pound the wadding up against the black powder. Tip: The tighter the wadding fits in the barrel, the more pressure will be built up when the cannon fires, making the cannon louder and increasing muzzle velocity. Pounding on the wadding with the ramrod does not make the wadding fit tighter. The size of the piece of wadding you tear off will determine how tight it fits the bore.
- Step 5:** (This step is optional. Skip this step and continue to step 7 if you only want to fire a “blank”.) Insert one .177 cal BB and make sure it can roll freely all the way down to the wadding using only the force of gravity. If this is not possible, the BB is the wrong size or the bore needs to be cleared of debris. Tear off a dime size piece of paper towel and insert it after inserting the BB to prevent the BB from rolling out. Use your ramrod to push this second piece of wadding down the bore until it is firmly seated against the BB. Note: This secondary wadding should not fit tightly in the bore. Its only purpose is to keep the BB in place.
- Step 6:** Find a suitable target with a backstop behind the target to prevent the BB from escaping your controlled area. The backstop should be a soft material like dirt or several layers of thick cardboard to absorb the BB and help prevent ricochets. Steel BBs are more prone to ricochet than lead BBs.
- Step 7:** If you haven't already, PUT ON YOUR SAFETY GLASSES! Make sure everyone in the area is behind the cannon and wearing safety glasses. No one should be able to see the opening of the barrel. Keep in mind that these mini cannons are more than powerful enough to penetrate skin and/or clothing. Double check that your container of black powder is closed and far away from the cannon. Note: Wadding can catch on fire and stay smoldering for some time after firing. Make sure there aren't any flammable materials around or in front of the cannon. The wadding can travel long distances from the cannon especially if there is wind.
- Step 8:** Aim your cannon at the target. The cannon will recoil backwards, so make sure the cannon is not near the edge of a table. Do not try to prevent the cannon from recoiling as this can cause damage to the carriage. Full size cannons were designed to recoil freely to prevent damage. The same concept applies to miniatures!
- Step 9:** Make sure your face and any other part of your body is not directly above the vent. Light the fuse to fire the cannon. Stand Back! To fire again, repeat from step ONE!

Misfires: If the cannon fails to fire, wait at least 5 minutes before approaching and handling the cannon. When you do handle the cannon, treat it like it could still fire. The most common causes of misfires are the fuse not being fully inserted, forgetting to insert the powder charge, or accidentally inserting wadding before the black powder. If you are absolutely sure that there is still black powder in the correct position, use a paper clip or a 5/64th drill bit to clean out the vent and expose fresh powder. Insert a new fuse and attempt to fire again. If the cannon continues to not fire, use an air compressor to blow into the vent to force the projectile/wadding/powder out of the barrel. If you don't have an air compressor, you can try using a bicycle pump with a sports ball inflation needle (most inflation needles will fit tightly in the vent). The bike pump method may not work if the wadding in the barrel is excessively tight. After you remove the projectile/wadding/powder, clean the bore and vent thoroughly before attempting to fire again.

CARE AND MAINTENANCE

After every shot, use a Q-tip® to clear the bore of black powder residue and other debris. At the end of a shooting session, dip a Q-tip® in rubbing alcohol and run it in and out of the bore a few times or until no black powder residue is left in the bore. Black powder residue is highly corrosive. Be sure to not leave powder residue in or on the barrel for an extended period of time. Do not allow cleaning chemicals to come in contact with painted wood parts.

For brass or bronze barrels, make sure to not let any solvent sit in the barrel for an extended period of time (most gun cleaning solvents are designed to dissolve brass). Before long-term storage, wipe down the barrel with gun oil or WD-40® to help prevent oxidation. To bring your cannon barrel back to an untarnished shine and remove oxidation, use steel wool or a brass cleaner like BRASSO® (brass and bronze barrels only). Use BRASSO® on a Q-tip® to remove oxidation from inside the bore.

For black coated barrels, do not use harsh solvents like acetone for cleaning. Instead, use a Q-tip® with a small amount of rubbing alcohol to clean the bore, then follow with gun oil or WD-40® on a Q-tip® to protect the bore from oxidation. Use a clean dry cloth to clean the exterior of the barrel. Do not use steel wool or any harsh chemical cleaners on the exterior of the barrel, as this could scratch or remove the coating.

More information on our products can be found on our website: www.minicannontech.com

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