



# **OPERATION, SAFETY, AND MAINTENANCE INSTRUCTIONS**



**FOR ALL VERSIONS OF  
THUNDER BOOM™  
THUNDER MUGS**

REVISION B - OCT 2024

## **DISCLAIMER:**

Thank you for purchasing this extraordinary Thunder Mug/Signal/Salute Cannon (hereafter referred to as “mug(s)”). These mugs offer an exciting and rewarding experience for all ages. However, to ensure the safety of yourself and others, it is critical that you follow the provided safety rules. Failure to do so may result in injury or death. Always take every necessary safety precaution when loading, firing, or storing these mugs. Please read these instructions thoroughly, and contact the seller if you are unclear on any part.

By purchasing these mugs, you assume all risks of injury or harm related to the activities outlined in these instructions. You agree to release, indemnify, defend, and forever discharge the seller from all liability, claims, demands, damages, costs, and expenses, including any causes of action arising from death, injury, loss, or damage to the buyer.

**THESE THUNDER MUGS &  
SALUTE/SIGNAL CANNONS ARE TO BE  
USED AT YOUR OWN RISK.**

**THEY ARE NOT DESIGNED, NOR CAN  
THEY BE MODIFIED, TO FIRE ANY  
PROJECTILE OR OBJECT FROM THE  
MUZZLE OTHER THAN WADDING. DO  
NOT INSERT ANY PROJECTILE OR  
OBJECT INTO THE MUZZLE.**



# WARNINGS



In the very wise words of Dwight Schrute from 'The Office':

**'Whenever I'm about to do something, I think, "Would an idiot do that?" And if they would, I do not do that thing.'**

**Don't be an idiot.** The object is to have fun without injury. Ignition of the thunder mug is the responsibility of the cannon owner, with safety as the prime concern.

**NEVER** drink alcohol or be impaired by drugs/medication while using or handling black powder, fuse, or thunder mug.

**NEVER** smoke while handling black powder, fuse, or thunder mug.

**NEVER** leave loaded thunder mugs unattended.

**NEVER** store thunder mugs loaded.

**NEVER** get in front of, or allow others in front of the muzzle of the thunder mug (or within 50 feet) when in use.

**NEVER** approach a thunder mug that did not ignite and fire. If the mug does not fire, you must wait five minutes before you approach it. Treat a misfire or failure to fire as though it can go off at any moment.

**ALWAYS** be sure of your surroundings when firing the thunder mug.

## **SAFE ZONE:**

When firing the thunder mug, ensure that all people, pets, livestock, and any other living beings are at least **50 feet** away from the mug. This area is referred to as the "Safe Zone." Never allow anyone or anything to be in front of the muzzle—the front of the barrel where the black powder is loaded and the explosion exits.

Additionally, automobiles, motorized vehicles, dwellings, buildings, fuel tanks, fuel lines, and similar objects should be kept at least 200 feet away from the firing position and should never be in front of the muzzle.

## **FIRE/EMBER DANGER:**

Any remaining fire or embers in your thunder mug can ignite a new load of black powder. To prevent this, wait at least **five minutes** after firing before reloading. This ensures that all flames and embers are fully extinguished. After each use, clean the barrel with a wire brush or a wet swab to eliminate any remaining burning embers.

## **EAR AND EYE PROTECTION:**

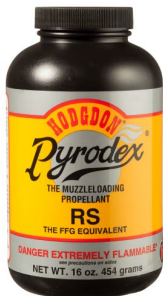
Eye and ear protection is always required. Thunder mug shooters and spectators should always wear ear and eye protection designed for firearm use.

## **BLACK POWDER WARNING:**

Black powder is classified as an explosive which at any time can be ignited by static electricity. Black powder should always be stored in its original container. Never use a glass, plastic or static-prone container.

## USE ONLY BLACK POWDER OR A BLACK POWDER SUBSTITUTE (i.e. PYRODEX)!

Do not mix different grades of black powder, and never add foreign substances such as flour, chalk, or other materials to your black powder. **Never use "Smokeless Powder"** in any instrument designed for black powder. Smokeless powder burns much faster and generates significantly more explosive force, making it unsafe for use in these devices. The below examples are all acceptable:



## FUSE WARNING:

Only use cannon fuse or safety fuse to ignite your black powder thunder mug. For safety, do not use any other type of fuse. Each time you prepare a new fuse, cut a 12-inch piece and measure how long it takes to burn completely. This should take approximately 20 to 30 seconds. If the burn time is less than 20 seconds, **DO NOT** use that fuse.

This test ensures that you know how much time you have to reach your "Safe Zone." Keep in mind, burn times can vary between manufacturers, so never rely solely on the packaging. Never use homemade fuses or fuses that are bent or damaged.

Fuses can be purchased at some hobby stores and gun stores and you can call ahead and ask for "1/8in or 3mm cannon fuse". They can also be purchased online.



## SAFETY INSPECTION:

Before loading and firing your thunder mug, always conduct a thorough inspection to ensure it is safe and fully functional. Check the barrel for any cracks, damage, or signs of stress. Also, ensure the surface on which the cannon sits is level to prevent it from tipping or falling during use. If you notice any damage, cracks, or stress on any part of the cannon, **STOP! DO NOT** load or fire the cannon.

# **LOADING/FIRING INSTRUCTIONS:**

Before firing your cannon, ensure you are in a safe and legal area. Check your surroundings and confirm that all safety guidelines have been met. Make sure the area is flat, clear of obstructions, and allows easy access to the "Safe Zone."

## **INSERT FUSE:**

In the "Firing Zone," insert a 12-inch length of fuse into the 1/8-inch hole in the barrel, creating about 1/4 inch of fuse visible from inside the barrel.



## **MEASURE YOUR BLACK POWDER CHARGE:**

Never pour black powder directly from its container into the mug. Select the measurement tool you'd like the load to be (tablespoon, 1/4 measuring cup, etc.) and pour the black powder carefully into it. Then, pour the measured amount onto a piece of folded paper or use a paper funnel to load it into the muzzle. Once finished, securely close the black powder container and store it in the "Safe Zone," under the supervision of a responsible adult, and well away from the firing area.

Thunder mugs perform well with as little as one tablespoon of black powder. However, for a truly thunderous experience, refer to the load data in the following table.

## Thunder Mug Loads

Name	Recommended Load	Maximum Load*	# Hotdog Buns (Wadding)
Little Man	1 Tsp (~63grn.)	1 Tbsp (~188grn.)	1/2
Shell Shaped	1 Tbsp (~188grn.)	1/4 Cup (750grn.)	1
Bullet Shaped	1 Tbsp (~188grn.)	1/4 Cup (750grn.)	1
1.69 "Original"	1/4 Cup (750grn.)	1/2 Cup (1500grn.)	2
Fat Boy	1/4 Cup (750grn.)	1/2 Cup (1500grn.)	2
Mega 8	1/4 Cup (750grn.)	1 Cup (3000grn.)	3

\*Maximum Load is based on the physical volume available in the bore of the mug. All max loads represent a full or nearly full muzzle of powder and bun wadding. The Mega 8 is an exception - we don't recommend going above 1 cup as the mug will have a difficult time burning 100% of its powder.

Using a wooden, aluminum, or brass rod, gently push the black powder to the base of the barrel. Do NOT use steel or any material that could cause sparks to tamp the powder. Lightly pack the powder, then place a wad of newspaper or a hot dog bun on top of the powder charge to help settle and compress the load.

ONLY use wadded newspaper or hot dog buns as wadding. **We recommend hot dog buns to prevent paper embers in the surrounding area.**

Position the cannon so it is angled straight up and away from your "Safe Zone," following all safety guidelines. Announce that the cannon is ready to fire. Light the fuse, then carefully but quickly move to your "Safe Zone."



# BOOM!

That was fun! Always wait at least 5 minutes before reloading. Swab the bore with a damp sponge and dry it completely. You must be 100% sure there are no live embers before reloading.

## CLEANING AND STORAGE

You should always store your thunder mug unloaded and clean. Black powder fouling is corrosive and can rust the metal parts in a short period of time. Mugs must be thoroughly cleaned after each session is completed. Storage of your mug without cleaning will cause the metal parts to rust and deteriorate, which can make it unsafe for future use.

**DON'T LET  
THIS  
HAPPEN  
TO YOU!**



## CLEANING OPTIONS:

OPTION 1: Black powder solvent can be purchased from most gun stores or black powder dealers. Follow the manufacturer's instructions that come with the solvent.

OPTION 2: If you don't have access to commercial solvents, take a bucket of hot water and add some standard "sudsy ammonia." Sudsy ammonia can be found at some grocery stores as "household ammonia." Follow all recommended directions and safety guidelines written by the manufacturer. The soap in this solution helps wash off the residue while the ammonia kills the corrosive agent remaining from the burned black powder and fuse.



Make sure you scrub and rinse the outside as well as the inside barrel and fuse hole with a swab or brush. All residue must be removed. Then thoroughly rinse with hot water and dry the cannon. An air compressor or a can of keyboard duster can be helpful to blow out extra water.

## COAT WITH OIL/PRESERVATIVE:

Once your thunder mug is clean and dry, it is very important that you oil all metal parts. Motor oil, penetrating oil, WD-40, or gun oil are all acceptable. However, we have found the best preservative is a can of Fluid Film's "Powerful Rust and Corrosion Protection." It has oils that inhibit rust yet don't dry out or get sticky over time. Place the oiled mug into a ziplock bag and store in a dry place.

If your looking for a long lasting inhibitor while also putting your thunder mug on display, you may want to consider using a museum grade wax to coat the steel. You can get from Amazon a product called "Renaissance Wax" that should prevent rusting.



# THANK YOU FOR SUPPORTING OUR SMALL BUSINESS!

You are now the owner of one of the world's finest thunder mugs, crafted by Thunder Boom, LLC. Our company was founded in 2024 when Tara and TJ turned their hobby of machining these noise-making devices into an official business. After seeing the excitement and joy they brought to crowds during an Independence Day celebration, we knew we had to share this experience with others by offering our thunder mugs online.

Tara oversees operations, handling customer questions, marketing, website management, and order fulfillment. TJ, the machinist and technical engineer, designs the mugs with safety and beauty in mind, ensuring each one is celebration-worthy.

Thunder Boom is a family-owned and operated business, and when you support us, you're supporting the real American Dream. Thank you for helping to keep that dream alive.

With warm regards,

TJ and Tara

