

Mortar Information

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The U.S.S. *Fort Henry* currently has a “captured” 4-in bore Coehorn mortar. The three hundred pound mortar was made about 2000 (unknown builder) and has been operated over a hundred times.

Originally owned by a Confederate marines reenacting unit (the photo at the right shows the mortar as purchased by this unit), it eventually came into this unit where it was refinished (second photo).

The barrel was removed and the carriage stripped and sanded then finished in walnut. New implements were made and a new powder chest built, a new linstock, water bucket and back board made.

As the gun came with a percussion cap lock (hammer) and we could not achieve a 100% firing success, we changed over to quill primers which are very successful.

After firing over 50 rounds using the quill primers we have achieved 100% firing success and have not yet needed to re-prime the load. The current load uses $\frac{1}{4}$ pound of black powder and $\frac{1}{4}$ pound of flour, packed separately but placed in the same load. The powder end of the load goes in the barrel first



Purpose of Mortars

Mortars are used in current military units. They have evolved significantly from the heavy mortars of the 17th, 18th, and 19th centuries. Like today, the old mortars were used to fire over and behind obstacles by firing at a steep angle and the projectile making an arc and falling to the target area.

Mortars used exploding shell and by the time of the American Civil War, the fuse timer was quite well perfected. A number of different fuses were used but the most common was the Borman fuse. This fuse was used by both the Federal and Confederate armies and differed slightly.

The Federal Borman fuse (right) had an array of numbers (0-5-3/4 seconds) around the center. This array was a thin tin material and the artillerist used a punch to expose the powder under the tin by making a small hole at the increment of time delay.



The exploding shell consisted of the hollow spherical iron ball filled with black powder and closed with a small screwed-in plug that had a small hole in the center of it. (This plug sat

below where the Borman fuse plug would go.) The round also had a wood sabot and iron straps holding the sabot and ball together. The sabot keeps the Borman fuse facing away from the initial blast of the mortar.

To fire the mortar, the artillerist would determine the distance to the target and look at the chart in the powder chest. He needed to know two things: How much powder to fire the round, and how much time delay to set the fuse. He would then take a fuse and screw it into the round, then use a punch to set the delay. (Keep in mind that the mortar was fixed at a 45-degree angle. The amount



of powder determined how far the round would go.) Next the correct powder load would be put into the mortar and then the round, sabot end first.

When the gun is fired, the round moves out of the barrel and the faster moving flame “licks” around the ball, igniting the fuse.

TABLE OF FIRE, 4-INCH MORTAR					
Charge in ounces	Projectile type	Elevation in degrees & minutes	Range in yards	Time in seconds	Remarks
0.5	Shell, 6 lbs.	45	25	1-3/4	
1.0	"	45	68	2-1/4	
1.5	"	45	104	3	
1.75	"	45	143	3-1/4	
2.0	"	45	165	3-1/2	
2.75	"	45	260	4	
4.0	"	45	422	4-1/2	
6.0	"	45	900	5	
8.0	"	45	1,200	5-1/2	

CARE OF AMMUNITION CHEST

1st. Keep everything out that does not belong in there, except a batch of cord or wire for knivage because of loose bolts, nuts, or rings.
2nd. Keep fire-pan powder in their papers, tied up. The papers containing those fire-pan powder must be checked, and no powder to be secure.
Take every precaution that powder does not get loose; a slight one may cause an explosion. Use plenty of tow in packing secure.
(This sheet is to be glued to the inside of powder chest cover.)

Supporting equipment for the mortars was much like the regular field artillery. There were implements for preparing the bore of the gun (“sponges” and a worm) as well as loading it.

This unit’s limber box (powder chest) holds the rounds for the mortar (left side of chest) as well as the heavy gloves, priming quills, cartridge pricks, thumb stall, and other accessories (under the removable tray on the right) used to clean and maintain the mortar.

During the American Civil War, mortars ranged in size from the small Coehorns up to massive 20-inch bore guns typically mounted in ships (mortar schooners) and on train flat cars. They were often called siege mortars as they were frequently used for forts and cities in long term bombardments.



