

P53 Enfield rifle musket breech plug removal (12/24/2023)

This will describe a way to remove the breech plug from a reproduction 1853 Enfield rifle musket. I say "a" way because I am sure there are many others. I have spent countless hours searching for an easy method for the removal of said breech plug, but there is not one repository or any good descriptive ways to get the job done. If after you read this and know a simpler way to remove the breech plug, please let me know.

The Enfield I used I had acquired in 2017 from a guy who said he bought it at the 150th Gettysburg reenactment. When I got it, the ramrod would not go down more than ¼ of an inch from the muzzle, and that was the narrow end of the ramrod. I cleaned the weapon really well and only used it two or three times for a reenactment, cleaning it well after each event. I decided to live fire the piece about 7 months ago. While loading the fifth round, it got stuck about 6" from the breech. I did not fire the thing and had to remove the projectile manually. I again cleaned it really well but I was not sure why the minne' ball got stuck. I have a bore camera and could see some pitting but nothing I thought would cause the round to get stuck upon loading. This started my journey to remove the breech plug to complete a better barrel inspection.

Items required:

- Reproduction P53 rifle musket
- Work table
- Flathead screwdriver to dismount the barrel
- Torch with propane or MAP gas
- Paper grocery bag
- Sturdy vice
- Two hardwood blocks approximately 2" wide X 5" long
- Breech plug tool OR 8" (or larger) adjustable wrench
- Heavy hammer
- Gun oil

Procedure

1. Dismount the barrel
 - a. Remove the ramrod
 - b. Remove the three barrel bands (screws should be to the left)
 - c. Remove the tang screw
 - d. Holding the barrel in the stock roll the stock over
 - e. Gently lift up on the stock from the front until free from the barrel
2. Vice
 - a. Ensure the vice is firmly mounted to your worktable.
 - b. Open the vice jaws and set wooden blocks between the jaws. Ensure the wood grain is perpendicular to the vice jaws. The space between the wood blocks needs to be sufficient to place the barrel between the blocks.
 - c. Wrap the barrel over the rear sight and forward of it with 5 to 7 wraps of the paper grocery bag. The wrap should be sufficiently tight as this will protect the barrel
 - d. Place the barrel between the blocks and tighten the vice. The barrel needs to be between the wood blocks and parallel to the vice jaws as close as possible to the jaws

center line. Be careful to keep the rear sight free of the blocks, preferably to the “backside” of the blocks as it is easier to work on the piece.

- e. Ensure the tang is not on top relative to the vice jaws. You will need to put the wrench on the breech plug. I found the tang 90 degrees from the top worked.
 - f. Continue to tighten the vice REALLY REALLY REALLY REALLY tight.
3. Adjustable wrench if no Breech Plug wrench is available
- a. To minimize breech plug damage grind the jaws to about a 15 degree angle to match the angle of the breech plug.
 - b. Once I got the angle right, I welded the jaws into the position to keep them from slipping open.
 - c. Do not put the jaws of the wrench above the bottom of the tang to avoid damage.
4. Breech Plug wrench
- a. I don't have one, but I would suggest it. Making the tool was a pain as all I had was an angle grinder to shape it.
5. Heat
- a. At fist I used a propane torch, I don't think it got hot enough. I applied heat as evenly as I could all around the breech plug and applied heat constantly for upward of 5 minutes. I then put the wrench on the plug and struck it several times really hard but the plug did not move. I can't tell you how many times I did this, but it was more than 10.
 - b. Occasionally the whole barrel would turn so I would have to reset it
 - c. I would also apply a good quality gun oil to the heated portion of the breech plug because it made me feel better. (I don't know if the oil would seep in or not through the threads, but it couldn't hurt.)
 - d. I continued the drama for about half an hour, heating, hitting, etc. but didn't get anywhere.
 - e. Because the musket was older and I had nothing to lose, I switched to MAP gas.
 - f. After 7 to 10 minutes of heating and hitting, I noted the index marking started to move.
 - g. A few more gentler taps, the plug unscrewed with no issue.
6. Inspection
- a. After the barrel and breech plug cooled, I cleaned the barrel with a copper 20ga shotgun brush and then ran patches through the barrel.
 - b. I used the bore camera and came away with more useable information.
 - c. See examples



From the muzzle to near the breech with no breech plug. Note the deep pitting. I believe this is where the minne' ball got lodged upon loading.



From the muzzle to near the breech with the breech plug. Note the pitting but it is not as pronounced. I believe this is where the minne' ball got lodged upon loading.



From the muzzle about 4 inches down with no breech plug. Note the deep pitting.



From the muzzle about 4 inches down with the breech plug. Both photos are in the same area but there is less detail in this photo than the other one.

7. Reassembly

- a. I used a high temperature grease for the threads. A very light coating so it would minimize the effect on the black powder.
- b. Upon putting the breech plug back on, take your time so it doesn't get cross threaded. The threads are pretty robust, but why create work?
- c. I am guessing the thread pitch is metric. Measured on a TPI gauge, they are between 16 and 18 TPI.
- d. There was absolutely no problem in lining up the index marks.'
- e. Clean as you normally would.
- f. Remount the barrel.
- g. Good luck!