

Replace Musket Mainspring

Brown Bess 2nd Model Short Land
Pattern

Parts Needed

- Musket with broken Mainspring (Got mine!)
- New Mainspring
- Spring Vice
- C-Clamp (optional)
- Screwdriver
- Grease
- Oil
- Rags



Starting Point

- Lock has been removed from musket.
- Frizzen, Frizzen Spring and Flash Guard removed.
- Hammer Screw and Hammer removed.
- The Mainspring in this case was broken, so the screw was removed to discard the broken pieces.
- Visible grease wiped away.



Disclaimer, if you're in a hurry, jump to slide 14. I've decided to disassemble the lock, clean and reassemble it. The Mainspring can be replaced right from this point with no further disassembly.

Remove Sear Spring

- Remove the Sear Spring Screw. There is only a little tension.
- Clean and place the parts in a secure location until needed for reassembly.



Remove the Sear

- Remove the Bridle/Sear Screw.
- Remove the Sear.
- Clean and place the parts in a secure location until needed for reassembly.



Remove Bridle

- Remove Bridle Screw.
- Remove Bridle.
- Clean and place the parts in a secure location until needed for reassembly.



Remove the Tumbler

- With the Bridle removed, the Tumbler can be pulled out.
- Clean and place the parts in a secure location until needed for reassembly.



Clean All Parts



Grease the Lock Plate

- Use a brush to apply a layer of grease to the back side of the Lock Plate.



Install the Tumbler

- Install the Tumbler as shown.
- Grease the exposed surfaces of the Tumbler.



Install the Bridle

- Install the Bridle.
- Oil and install the Bridle Screw.
- Grease exposed surfaces of the Bridle.



Install the Sear

- Install the Sear.
- Oil and install the Sear Screw.
- Grease exposed surfaces of the Sear.



Install Sear Spring

- The Sear Spring is held in place by a tab on the spring inserting into a recess on the back of the Lock Plate.
- Line up the Sear Spring.
- The tab is not yet in the recess.
- Oil and insert the Sear Spring Screw, but don't tighten.
- Use your thumb to compress the Sear Spring against the Sear.
- When the Sear Spring snaps into the recess, finish tightening the Sear Spring Screw.
- Grease exposed surfaces of Sear Spring.



Ready for the Mainspring



- Now we're back where we were at Slide 3, except all parts are clean and freshly greased.

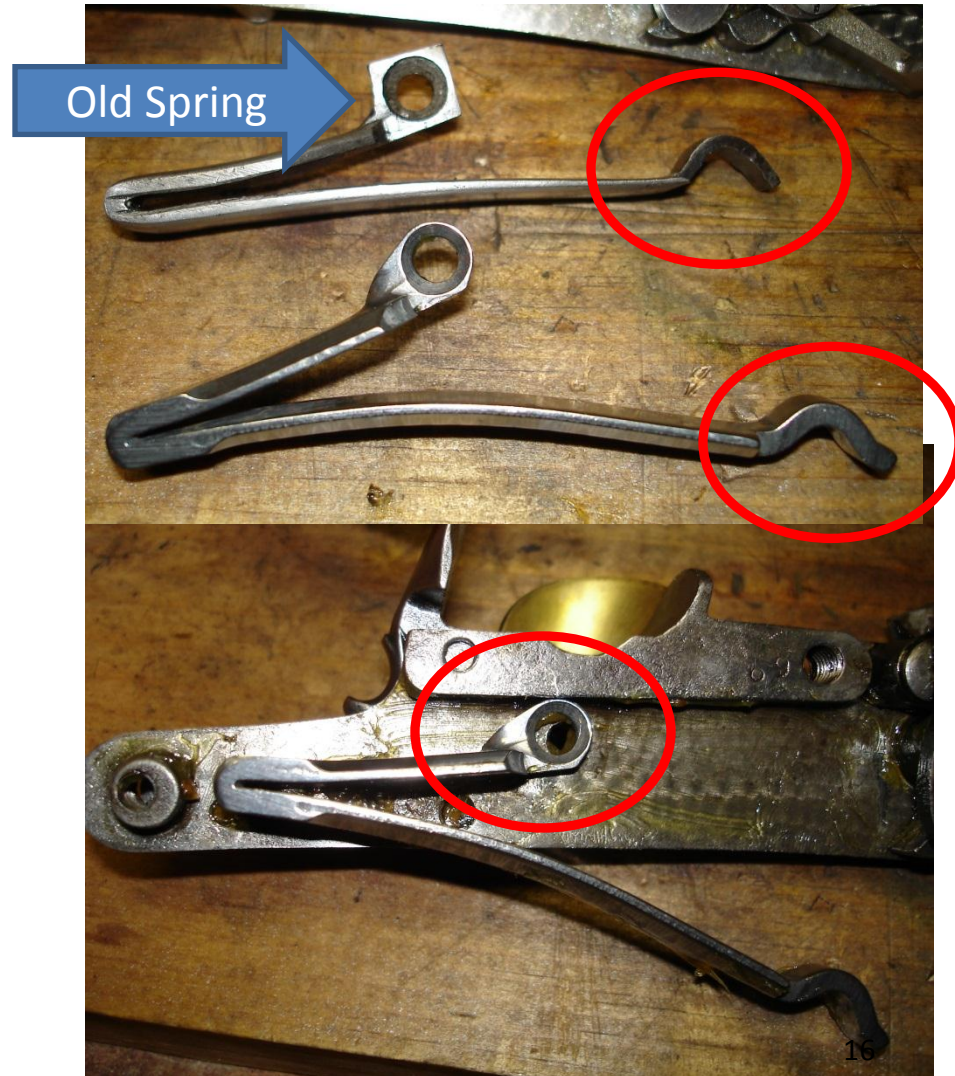
Install the Mainspring

- Install the Mainspring.
- Make sure that the peg on the spring goes into the hole, and that the screw hole lines up with the threaded hole on the Lock Plate.
- Oil the Mainspring screw and install.
- Attach the Spring Vice and screw it down to begin to compress the Mainspring.



Possible Problem...

- There are apparently two types of Brown Bess locks. An earlier production model uses a square screw hole, and the new spring just didn't line up.
- The vendor said that they only make the round one now, so if this is you, there will be two problems to overcome.
 1. Need to file on the Lock Plate to make the screw hole align.
 2. The new spring is shaped slightly different, and thicker than the old one. This results in a clearance issue and the inability to go to full cock. Lots of filing on the part of the spring that contacts the Tumbler to make it so that will go to full cock. Filed it thinner, top and bottom, as well as a bit shorter.



Compress the Mainspring

- In addition to the Spring Vice, I used an appropriately sized C-Clamp to help compress the Mainspring.
- I kept dialing the Spring Vice down as the C-Clamp compressed the Mainspring.
- Since this position is fully 'released', You'll notice that the Hammer is intentionally oriented incorrectly.
- I'm using my left hand to push the Hammer as far forward as it will go against the Sear to get the clearance needed for the Mainspring to pass the Tumbler. This is not possible with the Hammer in the correct position, since the mechanical stop on the Hammer normally prevents the Tumbler from allowing the Spring to get past it.



Remove the Spring Vice

- After the Mainspring clears the Tumbler, allow the Hammer to return to its rest position.
- DO NOT release the C-Clamp or the Spring Vice yet!
- Oil the contact surfaces of the Hammer.
- Return the Hammer to its normal position on the Tumbler.
- Oil the Hammer Screw and secure the Hammer in place.
- You may now carefully remove the C-Clamp if used, and the Spring Vice.



Almost Done!

- Grease all exposed surfaces on the inside of the Lock.
- Reassemble the rest of the Lock.
- Install into Musket and test.
- Verify that you can go all the way to full cock.
- Verify that the musket does not fire at half cock.



Questions? Comments?

- Feedback most welcome!
- Email feedback to webmaster@64thlights.net