10 Tips for Reducing Musket Misfires

1. Use FFFG (3F) grade black powder. FFFG has smaller granules that ignite easier than FFG (2F).

2. Keep cartridges in a plastic Ziplock bag until ready to take the field. Black powder is hygroscopic (it absorbs moisture from the air). In our humid climate, powder becomes damp quickly. If left in a cartridge box overnight, cartridges may not feel damp in the morning, but they most likely are. Damp powder is more difficult to ignite. Put a fresh bag of cartridges in your cartridge box prior to each battle. After returning home, unused cartridges can be laid out on a table for 24 hours (assuming you have air conditioning) to dry out again.

3. Dry the bore of your musket each morning at an event. Excess oil and/or moisture from humidity can collect in the bore, dampening your powder when it is poured in.

4. Remove the cone and dry out any excess oil or moisture from the bolster area beneath the cone each morning at an event. Ensure the flash channel to the main chamber dry and clear. Pipe cleaners cut into 2” lengths work great for this. Run a pipe cleaner through the cone to ensure the hole is dry and clear.

5. Inspect your cone closely. Cones that come with a new musket from the factory are made for live firing, not blank firing. They often have a hole that is smaller than ideal for blank firing. Also check musket cap fit on the cone. It should fit on snug, with no need to pinch the cap. If the top of the cone is mushroom shaped or otherwise beat up, it should be replaced. The best replacement cones I have found for reenactor use are made of stainless steel and are sold by Regimental Quartermaster. These have a step taper where the cap seats and caps fit perfectly on them. These cones come in two different hole sizes; Small hole cone for live firing and a large hole cone for blank firing. Get the large hole style. These cones are made in different thread sizes to fit muskets of different manufacturers. They are corrosion resistant, fit well and go a long way towards reducing misfires.

6. The best musket caps currently on the market for reliable ignition by reenactors are the German made RWS Dynamite Nobel 4-wing caps in the black plastic container with red label. CCI is marketing a “reenactor grade” musket cap that looks good (made of copper), but it is not as powerful as the RWS caps and often cause misfires in muskets. These are good for display purposes, but not recommended for best reliability.

7. Seating the powder in the breech each time you load is very important. After pouring the powder into the bore, simply rap the stock opposite the lock with the palm of your hand a couple times or GENTLY tap the butt of the musket on the ground. Don’t slam the musket to the ground, a simple tap will do the trick. Either of these methods will work fine. This is an important step because powder tends to cling to the side of the bore when poured down and it gets worse as fouling builds up. By taking a moment to seat the powder in the breech, the flame from the musket cap will have a much better chance or reaching and igniting the main charge.

8. Hammer alignment is important to ensure the hammer strikes the cap in the center of the hammer face. A hammer that is loose on the tumbler or on hammer on a lock that has been over-tightened into the stock can strike the cap unevenly, resulting in poor ignition.

9. Is your musket easy to cock? It shouldn’t be. The mainspring of a musket lock was intentionally made very strong in order to make a hard strike on the musket cap. Over time, the cast steel mainsprings on most reproduction muskets tend to weaken, which can contribute to misfires (original muskets used forged mainsprings). New mainsprings are inexpensive and easy to replace. If your musket feels easy to cock compared to other muskets, it’s probably time to replace the mainspring.

10. Ensure your musket’s lock is lubricated and the hammer moves freely. Periodically, the lock should be removed, cleaned and oiled. If the lock is sluggish, it will not hit the cap with full power and cause weak ignition.