



MLAGB Code of Practice for Muzzle Loading Arms

Basic Safety Rules and Guidance for Handling Black Powder on Ranges

1. Current use of explosives is covered by the Explosives Regulations 2014. The HSE guidance on the interpretation of these regulations can be found in three documents; two documents provide overarching guidance for all sectors using explosives. One covers Safety (L150) and one covers Security (L151). Further documents to provide specific guidance for the individual subsectors of explosives users have also been produced. There is a specific guidance for shooters and the shooting subsector that clarifies the interpretation of the regulations and overarching guidance document. (A reference will be included when this document is published). It would be wise for shooters to make themselves familiar with the subsector guidance document.
2. Black powder is ignited by a flame or spark. A spark may come from any source, from the lighted end of a “match”, from the sparks from the frizzen of a flintlock, or the jet of flame injected into the powder in the chamber by a percussion cap. It can also be ignited by the end of an unrestrained “match” being blown onto an adjacent firing point, sparks from a grass fire, glowing ash from a previous shot (again a matchlock “problem”), or exceptionally by static discharge. Although the latter has a low probability, it is wise for shooters to avoid handling black powder when wearing clothing that is prone to static build up or in an environment where static build up is likely. The HSE document L150 contains advice on risks of initiation by static and ways of mitigating against that possibility. Black powder can also be ignited by the glowing embers of a cigarette, and smoking of any sort including ‘Vaping’ is strictly prohibited on the range. When burned in the open air, a small quantity of black powder flashes but does not explode. The finer the powder the faster it burns. Black powder explodes when burned in a confined space, like the chamber of a gun, or in a partly capped phial or leaky powder flask,
3. Earlier editions of the MLAGB Code for Practice for Muzzle Loading Arms were written in the days before the current Explosives Regulations 2014 were brought into law. Substantial updates were made to the legislation and new HSE Guidance has been produced. This guidance now deems it acceptable to transport powder in flasks, phials or twists as well as in original packaging. (See Shooters and Shooting Sub-sector Guidance document). Some additional guidance from the Home Office can be found at www.gov.uk/government/uploads/system/uploads/attachment_data/file/527616/dangerous-goods-guidance-note-6.pdf).
4. A container of black powder of any size must only be opened on the range to dispense its contents, after which it should be immediately re-closed. The minimum quantity of powder should be open exposed at any one time. MLAGB rules (available for download at <http://www.mlagb.com/downloads/>) specify that, where practical, powder must only be loaded into any firearm from phials holding the correct charge for a single firing. This means that loading direct from a flask into a revolver chamber or a single shot pistol or long arm barrel is prohibited in MLAGB competitions. It is good practice for a club's executive to encourage the use of phials irrespective of the discipline or the rules under which shooting is taking place.
5. Flasks used for priming flintlocks should hold a minimal quantity of powder. International rules state that 250grain (16.2 grams) is the maximum amount of powder that a priming flask should hold. An accident in 2000 involving a closed priming flask and a matchlock long arm has led some shooters

to prime their matchlocks from individual phials holding the minimum required priming for each shot as an alternative. This can also be used as an acceptable alternative for flintlocks. When using priming flasks with screwed caps on both ends, it is a sensible precaution to remove the end away from the spout and replace it with a cork or similar “blow out” closure whilst the flask is on the firing point. The priming of arms using self-priming locks (e.g. on Manton pistols) is also acceptable if this is carried out at the firing point itself. It is not acceptable if loading has to be carried out behind the firing point.

6. Flasks, phials or other black powder containers should be kept covered on the firing point or the loading table when not in use. This helps to prevent sparks from causing trouble and keeps the powder out of the sun (the increased temperature may lead to increased chamber pressures, and where any changes happen over the course of a detail, accuracy will be adversely affected). This also applies to boxes of percussion caps, which should only be opened to remove the required number of caps for either a single shot or a complete cylinder in a revolver as appropriate.
7. The match for matchlocks has to be lighted by an open flame “somewhere” on the range. Where a designated area for lighting the match is not available, the shooter must light his match with constant regard for the actions of adjacent shooters, who may open black powder containers being unaware of the match lighter’s actions. The glowing match is kept at the firing point in a perforated container to allow air to enter but stop any sparks from escaping. It is only removed from the container when required to be inserted in the match-lock’s serpentine, and is replaced in this container as soon as the shot has been discharged. The shooter must ensure that the match is retained with the gun on firing, either by holding the non-burned end, by hooking the match through a link or ring under the stock, or by putting a pin through the serpentine and into the match.
8. Almost all muzzle loading societies stress that only the minimum loads required for accuracy at the current shooting distance should be used in a muzzle loading arm. For example, fully loading chambers of revolvers designed for “service use” when precision target shooting at 25m is neither necessary for accuracy nor conducive to the comfort of either the shooter or others on the firing point. If a shooter is obviously using abnormally high loads other than in agreed circumstances the Range Officer should ask the shooter to stop until the end of the detail when the use of such loads can be discussed.
9. Shooting with reduced loads at long range could decrease accuracy, and this may result in “flyers” landing outside the normal confines of the range. Shooters “moving up” ranges should check their loads as well as their sight setting.
10. Smokeless powder substitutes like Pyrodex are just as vulnerable to ignition by flame or spark as black powder itself. Black powder and Pyrodex are both said to be at risk of ignition by a direct blow, but it is not easy to do this by any normal means. It is unlikely that any problem caused by impact will be encountered during normal handling, including carriage in original containers, phials or copper flasks.
11. Normal shooting procedures include precautions to minimise spillage of powder, however a very small quantity of black powder may be spilled on the range, even with careful handling. This arises when phials are being filled from flasks, when chambers or barrels are being charged from flasks or phials or when the ball or bullet is forced down the barrel which blows powder out of the nipple or the touch hole. Although precautions are taken by black powder shooters in this respect, some

powder could land up either on the firing point or the loading table, or on the ground around the firing point.

12. If powder is spilled on an outside range, nature will take care of the problem, as the powder will quickly become damp, disintegrate and will finally be washed away. When loading at a table or at the firing point when the range is covered, steps must be taken to remove powder when spilled. The Range Officer shall insist that spilled powder is wiped from tables at the firing point or on the loading table as soon as practicable. For this reason, indoor ranges should not normally be fitted with carpeting, coir matting, or other materials likely to retain spilled powder under the loading table or at the firing point. Black powder can accumulate in such carpets, and it can be very difficult to remove spilled powder safely or effectively from them.
13. On indoor ranges, most of which will have concrete floors, a muzzle loading shooting session will leave the floor in front of the firing point covered with burned powder, bulk filler (such as semolina) spent patches, wads and minute particles of lead. This detritus should be routinely removed and disposed of at the end of a shooting session in a manner defined by the club's executive. The floor should be damped first to stop any lead dust which may exist being unnecessarily brushed into the air. When dry, this detritus may burn, particularly if Pyrodex or other black powder substitutes or nitro powders have also been used, say, in gallery rifles during the same shooting session. This is because virtually all of the finer grades of black powder ignite in the barrel (even if it continues to burn outside the barrel) whereas a small proportion of other powders usually fails to ignite - and is blown down-range.

References:

The Explosives Regulations 2014. The Legislation can be found at:

<http://www.legislation.gov.uk/ukxi/2014/1638/contents/made>

Note that there is an update to the Explosives Regulations in 2016 and an explanation of the update by the HSE can be found at <http://www.hse.gov.uk/explosives/regulations2016.htm>

Explosives Regulations 2014: Guidance on Regulations – Safety provisions

Manufacture and storage of explosives. Date of publication: 2014

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Series code: L150 (First edition)

Available from <http://www.hse.gov.uk/pubns/books/l150.htm>

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