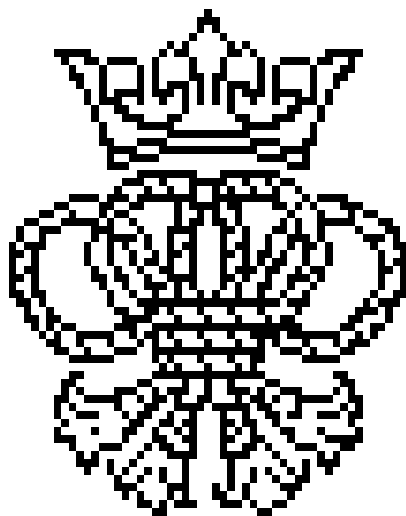


# **THE SEALED KNOT**



## **MUSKET HANDBOOK**

**2005**

## THE MUSKET HANDBOOK - 2005



Guidelines and a Code of Practice for Musketeers, Dragoons and Cavalry, to be used in conjunction with their officers' knowledge and expertise.

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## **1 Introduction**

The purpose of this guide is to act as an introduction to the use of the musket as a weapon in Sealed Knot events.

The primary aim is to ensure the maximum degree of safety consistent with the production of historically convincing and entertaining displays. This aim can sometimes conflict with historical accuracy and entertainment but on this issue, compromise is not possible; the emphasis must always be upon safety.

In order to make sure that the Society continues to be able to use muskets in the current safety-conscious environment, it is important that there is a framework of rules and good practice which is safe, understandable, enforceable and simple. Non-musket users who need to understand the way muskets are used should also find this handbook useful and informative.

Risk Assessments have been carried out for various aspects of musket use and are available from the Musket Inspectorate on request.

## **2 The Training of Musketeers**

Recruits are to be trained within their individual regiments in all postures, including static and marching drill, battle manoeuvres, loading and firing movements, safety procedures and gun maintenance. The responsibility of training musketeers rests with the senior musket officer of each regiment and, ultimately the Regimental Commanding Officer.

Each musketeer must pass the SK Musket Test, before being allowed to fire a weapon in an SK battle or event. This test, supervised and controlled by the Musket Inspectorate, is the Sealed Knot's test of competency. It is strongly recommended that the candidate be brought to a sufficient standard of competency before attempting the Musket Test. Candidates must also have sufficient knowledge of the Code of Practice for Musketeers, Dragoons and Cavalry (Revised April 2002).

A member wishing to become a musketeer within the Sealed Knot should be supplied with a Regimental Competency Document (see Appendix 1) for the purpose of recording their training and progress. Regiments will be issued with a stock of these forms and they will also be available from the Sealed Knot website.

During initial training, musketeers must be given the opportunity of firing a musket several times under close supervision. It is possible for the Regimental Musket Officer to draw powder from the Magazine for this

purpose. The powdermaster for the event will designate a safe area for training.

Candidates should be brought to the test fully equipped with everything needed for the battlefield together with all relevant licences, SK membership card and completed Regimental Competency Document. Their trainer or a musket officer from their regiment should accompany them. If the musket is not on their own licence then the person on whose licence it is recorded should also accompany them, bringing the relevant licence. The Musket Inspectorate endeavour to be available for testing between 11 a.m. and 12 noon at Powder Issue.

### 3 Licences

Musketeers require two licences:

#### ***Shot Gun Certificate***

It should be noted that a Shot Gun Certificate is valid only for a smooth bore weapon with a barrel length, measured internally from the breech face to the muzzle, of not less than 24" and a bore diameter not exceeding two inches. An application form has to be completed for a renewal as well as a new certificate. Renewals should be made shortly prior to the expiry of the old certificate. The notes on the application form should be read carefully.

Application forms for the licence are obtainable from any Police Station and must be endorsed by a doctor, local J.P. or person of similar standing. Four passport size photographs are required which must be correctly endorsed (the wording is on the form). The licence runs for five years and there is a fee payable. Any previous offence must be recorded.

A licence is required before a musket can be bought and if you have no musket at present please state this clearly. On renewal, a detailed description of each shot gun possessed must be given. The form asks for maker's name, gauge or calibre, and description (including identification number if known). A possible description could be; *"a single (length of barrel) barrel muzzle loading black powder (type e.g. matchlock / flintlock) musket. Number is..... (and/or) Proof marks are...."*.

Membership of the Sealed Knot is accepted as a good reason for applying for a Shot Gun Licence, however if you also wish to use your musket for 'live' shooting, you should make this clear in your application, or on any renewal.

Following this you may be interviewed in your own home by a Police Officer to ensure that you are a reasonable and honest member of the community. The Police may also ask where you intend to keep your musket.

### ***Explosive (Black Powder) Certificate (COER3)***

This certificate permits a musketeer to acquire black powder from the magazine. Normally, an “acquisition only” certificate is sufficient. Powder acquired from the magazine may be held only during an SK event and any unused powder must be returned to the magazine before leaving the event. Application for this certificate is through the Firearms Department of the Local Police Authority. Membership of a historical re-enactment society is considered a good reason for the granting of an acquisition only certificate [section 3, 1988 Act].

#### ***Application for Explosive Certificate***

All applicants should complete sections A and D.

Powder masters and people intending to store gunpowder should complete section B.

Musketeers and gun crew etc not intending to store powder should complete section C. (This is for an acquisition only licence, which is only valid for up to one year.)

Under COER the use of black powder in historical re-enactment is considered a valid reason for having an Acquisition Only certificate.

Advice has been sought from a senior firearms officer and acceptable answers to some of the questions in the form are suggested below:

PART A Q9	PURPOSE	As a member of a re-enactment society.
	WHERE	At sites of re-enactment events.
PART A Q10	EXPERIENCE	Trained / (receiving training) as a musketeer within the Sealed Knot, or, a musketeer for the last ** years
PART C Q15	N/A	
PART C Q16	ESTIMATED NUMBER OF ACQUISITIONS	Several (try not to restrict yourself)

	PERIOD OVER WHICH ACQUISITIONS ARE TO TAKE PLACE	FROM 1/1/0* TO 31/12/0*
	TYPE AND QUANTITY	Up to 1 kg blackpowder. (Gun Captains may need up to 10kg)
	PLACES	At sites of re-enactment events.
PART C Q17	REASONS	N/A. (or) Private use
PART C Q18	Tick box;	Returned to supplier
	AT name and address	Registered site of the event.
	County etc	N/A

Whilst the above are not definitive answers they will hopefully provide some guidelines. Completed applications should be sent to your Explosives Liaison Officer at least 30 days before expiry of the existing licence. Even if your current certificate does not expire for some time it may be advisable to renew your certificate 'out of the muster season'.

#### **4 The Firearms Amendment Act of 1988 and subsequent legislation**

##### ***Guidance on the Act***

There is a booklet available, "Firearms Law - Guidance to the Police 2002" HMSO (ISBN 011 341273 8). Most Police Authorities give advice on shotgun and firearm security when issuing new licences and the extracts are usually taken from the above booklet.

##### ***Storage and Security***

Section 19 of the above document gives guidance on security.

The level of security required depends upon both the risk to the guns from theft etc and the risk the guns would pose to the public if in the wrong hands. These factors will be assessed by the firearms officer during their visit.

The required security arrangements will often be a steel gun cabinet that must be bolted to a solid wall or other structural member of the house,

although in certain circumstances a gun clamp or cable may be considered adequate.

Further guidance can be obtained from the following Home Office booklets:

*Firearm Security Handbook.*

*Firearm Security: Notes for Guidance.*

All these documents are available on the web.

### ***Storage of Keys for the Security Device***

A condition of the shot gun certificate requires that all shot guns must be kept securely away from unauthorised people. Any individual who is not the holder of a shot gun certificate is by law an unauthorised person and therefore should not have access to any security device. This includes members of the owner's family.

Advice should be sought from local Police on the suitability of security arrangements.

### ***Storage on Campsite***

Muskets should be kept in locked vehicle, preferably out of sight.

### ***Visitors to Great Britain***

An application for a permit must be made by a resident of Great Britain on behalf of the visitor. The application must be made to the sponsor's chief officer of police; the sponsor need not necessarily hold a shot gun certificate. The application form asks for details of the visitor; his/her full name, date of birth, nationality, permanent address, address whilst in GB, reason for application, expected date of arrival, period for which the permit needs to be valid (it lasts 12 months). It also asks for details of the visitor's shot gun(s); gauge or calibre, makers name and description of the weapon (including identification number if known). A fee of £12 is payable for a permit. A "group application" may be made for not more than twenty visitors participating in the same event; the fee for this is £60. Information leaflets regarding visitor's permits are available.

### ***Transfer of Shot Guns.***

Please read carefully if you intend to borrow a musket or lend one to anyone.

This applies to both parties.

The Act states:



*"This section applies where a person*

*(a) sells, lets on hire or gives a shot gun; or*

*(b) lends a shot gun for a period of more than seventy-two hours, to another person in the UK who is not a registered firearms dealer.*

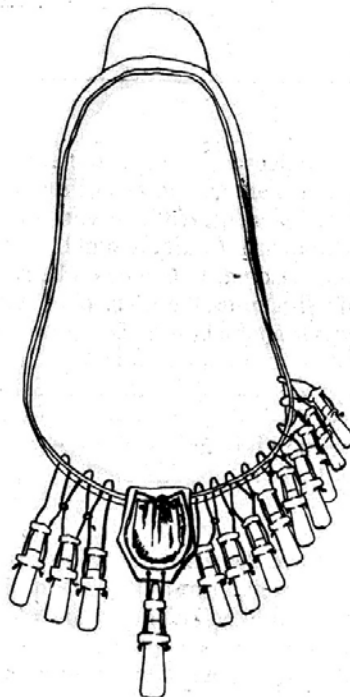
*The transferor shall -*

*(a) comply with any instructions contained in the certificate produced by the transferee; and*

*(b) within seven days of the transaction send a notice of the transaction to the chief officer of police who issued the transferor's certificate.*

*The transferee shall, within seven days of the transaction, send a notice of the transaction to the chief officer of police who issued his certificate. The notice of a transaction shall contain a description of the shot gun in question (giving the identification number if any) and state the nature of the transaction and the name and address of the other person concerned; and any such notice shall be sent by registered post or the recorded delivery service.*

*It is an offence to fail to comply with this section."*



## **5 Regimental Competency Document**

1. When a member wishes to take part as a musketeer at an SK event they are to be given a competency form. (See Appendix 1)
2. A regimental officer / NCO should instruct the new musketeer and tick the relevant boxes. They are required to sign off Part A before the musketeer goes onto the battlefield.
3. Before applying for a shotgun / blackpowder licence a regimental officer / NCO should instruct the musketeer and tick off the relevant boxes and sign off Part B.
4. Part C is included as a checklist before coming forward for a musket test, and should be completed on the day of the test. The musketeer should retain the completed competency document. It is an important document.
5. A musket test card will be issued to a successful candidate.
6. In the event of any musketeer being involved in an incident or accident on the battlefield or whilst under training as a 'dummy' musketeer, the Musket Inspectorate will inspect this competency form.

When a musketeer comes forward for a musket test the inspector shall complete and retain the Sealed Knot Musket Test and Competency Document. (See Appendix 2).

The Musket Inspector may then answer any questions the musketeer may have. Then, if satisfied with their training, safety and competence:

- a) Complete the Musket Card with their name, date, Inspector's stamp and signature.
- b) Forward the Sealed Knot Musket Test and Competency Document to the secretary of the Musket Inspectorate.



## **6 Safety Guidelines**

These are not in any order of priority, all safety points are important. Use common sense at all times and do not panic.

- Always treat and handle a musket as if it was loaded and thus avoid drifting into bad habits.
- Keep the muzzle pointed in a safe direction at all times, including whilst loading.
- Do not blow down the barrel to clear the smoke or place the face near the muzzle.
- Always carry a loaded musket at the "High Port".
- Remember in the loading sequence to place the black powder down the barrel **BEFORE** the wadding, otherwise misfires will occur! Always ensure the wadding is firmly, but not excessively, rammed upon the powder.
- Do not exceed the proof load, or excessively wad, as this could cause the barrel to weaken or even explode.
- When ramming home, hold the scouring stick using the fingers with the hand to one side, not over the end. This is to avoid injury to the hand in case of premature ignition and firing of the scouring stick.
- Always remove the scouring stick immediately after ramming home.
- The musket should be fired from the shoulder (even when kneeling), not only to absorb any recoil, but also to protect the face and eyes from "flash" from the pan.
- Treat a misfire or failure to fire with extreme caution. Remember that the misfire could be a hangfire, a delayed ignition. Hangfires have been reported igniting several minutes after the pan has flashed. A few seconds is not unusual. Keep the gun pointing in a safe direction and retire to a safe area of the battlefield and attempt to fire the musket one more time; pricking the touchhole may help. If this fails, wait at least 10 minutes then draw the charge carefully or douse the charge thoroughly, ensuring water comes out of the touchhole.
- Never smoke when carrying black powder or stand next to a person smoking.
- At all times keep slowmatch well away from flasks, pouches and bags containing black powder. When extinguishing slowmatch make sure

that it is completely out at both ends, smouldering match can re-ignite. Discard match prior to hand-to-hand fighting.

- In hand-to-hand combat always present the musket butt first with the lock nearest you to prevent damage. Blows **MUST** be pulled to minimise injury and damage.
- Due to the risks of burns it should be noted that in addition to adhering to the dress regulations, musketeers should always wear a doublet/coat when firing and any undergarments worn should be of natural fibres.
- Use the measure correctly when loading and priming. Do not 'drizzle' powder into the pan or barrel.

## **7 Musket Officers**

In addition to being responsible for the training of the musketeers within their unit, Musket Officers should note the following:

- Ensure that the Powdermaster is informed, prior to the muster, of the approximate number of musketeers of their unit likely to attend the event.
- Ensure all unused powder is returned to the Powdermaster.
- In the event of an accident, the Musket Officer should report upon the incident, in writing to the Musket Inspectorate or the Board of Safety.
- Ensure that the musketeers within their command adhere to the Code of Practice and other Sealed Knot rules. This also applies to musketeers temporarily attached to their unit.
- The Musket Inspectorate try to hold annual informal meetings of Musket Officers at major musters, providing the opportunity for discussion and dissemination of information. Musket Officers should ensure that their regiment is represented at such meetings.
- Ensure that no powder is to be held overnight in anywhere but the designated magazine (store).
- Ensure that any musketeers using swords have passed their sword test. Please note that swords are not a primary weapon; 'dummy' musketeers are not allowed to use them.

## **8 Code of Practice for Musketeers, Dragoons and Cavalry**

It is the responsibility of each individual to follow and to make sure that they have the knowledge to adhere to this Code of Practice. It is the responsibility of Commanding Officers and their nominated officers to provide training and guidance and also enforce these rules.

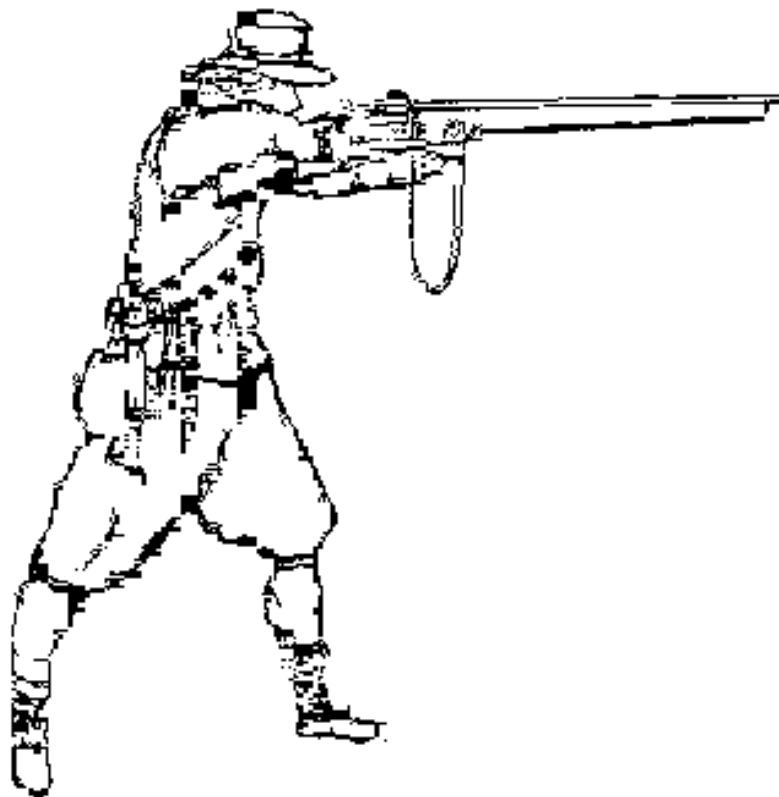
1. Musketeers, dragoons and cavalry must have the correct licences and have been passed by the Musket Inspectorate before firing a weapon at an SK battle or display. The law (Firearms Act, Explosives Act, etc.) and Sealed Knot rules will be adhered to at all times.
2. It is important that all musketeers have a thorough knowledge of:
  - Correct loading procedure
  - What to do in the event of a misfire
  - How to carry a loaded musket
  - 17th Century musket or dragoon drill
  - Hand to hand fighting
3. Powder must be carried in one of the following:
  - Measured cartridges, which are to be carried in a leather or canvas bag. The bag should be closeable and protected from stray sparks.
  - Powder flasks, made from a non-sparkable material, e.g. brass, copper, horn, leather, wood etc. The flask should have an integral measure and a flashproof closure and be constructed for safety with a built in "weak" point in the base or seam.
  - Bandoliers, made from wood with tight fitting tops, which must be flashproof.

It is very important that all these items are checked for damage before every battle and are kept clean and in good working order.

4. All musketry weapons must be provided with a working lock, trigger guard and pan cover.
5. Muskets must be cleaned after each day's usage and kept in good working order.
6. Muskets must be kept in good repair i.e. make sure the pan cover is tight fitting, the stock in good repair, the scouring stick the correct length etc.

7. Musketeers and their officers are reminded that before giving fire a check must be made and an order given to "Secure your Scouring Stick (Ramrod)".
8. A musket must never be aimed at a person or animal and the recommended safe firing distance of twenty yards should be adhered to.
9. All stocked weapons should be fired from the shoulder, care should be taken to see where the musket is aiming and that the face is protected from any flashback. It is recommended therefore that the match should be placed in the lock for firing.
10. Only soft toilet paper is to be used for wadding and the thickness of this should not exceed the bore of the gun. If paper cartridges are used, the paper should not be used as wadding due to the danger from powder grains being entrapped in its folds.
11. No weapon will be loaded off the battlefield except under the direction and order of a responsible officer during organised training. Weapons will be unloaded, or if necessary thoroughly doused with water, before leaving the battlefield.
12. Musketeers will not engage in hand to hand combat while carrying slow match or with a loaded musket. Nor should they enter a pike push while still carrying powder or match.
13. Muskets will be organised to fire by command only. The musket officer will not fire a musket whilst in command.
14. Musketeers must only use muskets with barrels that are in current proof.
15. The minimum musket bore permitted is 5/8", and the charge for this must not exceed 2 drams. Muskets of 3/4" or greater bore must not exceed a charge of 3 drams. (Note: 1 ounce = 16 drams). The proof load should never be exceeded.
16. All musketeers, dragoons and horsemen using blackpowder must be registered with the Musket Inspectorate and the Board of Safety. Each black powder user will draw their own powder from the magazine prior to each battle. The individual to whom the powder is issued is solely responsible for its safekeeping. All unused powder must be returned to the magazine at the end of each battle. Members must not bring their own powder to SK events except by prior arrangement with the magazine. Transportation of blackpowder requires an RCA document.

17. No propellant other than gunpowder issued by the Sealed Knot Magazine will be used in any weapon. Projectiles must not be fired.
18. The use of pistols and other Class 1 Firearms will be permitted only for mounted Cavalry and other persons on the specific authority of the Board of Safety.
19. On horseback, loaded carbines will be carried ordered upon the right thigh preparatory to discharge; they must not be left to hang from the cross belt. Loaded muskets are not to be carried across the back whilst on horseback. Powder must not be carried in bandoliers whilst on horseback.
20. When pistols are carried and used on horseback they will be kept in holsters secured to the saddle. In the event of a misfire a loaded pistol will not be returned to its holster unless the pan is empty and closed. Pistols will not be left in the holsters on an unattended horse.
21. The minimum age to fire a musket on the Sealed Knot Battlefield is 17 years.
22. Treat all guns as potentially loaded and "THINK SAFETY".



## **9 Gun Maintenance**

A musket should always be kept clean and in good working order.

The following points should be noted: -

1. The musket should be cleaned after each use to remove all deposits of black powder. There are a variety of ways of achieving this but a common method is to pour boiling water down the barrel to remove the deposits. A black powder solvent can also be used. Afterwards, using the implements of a gun cleaning kit, dry and lightly oil with gun oil.
2. Thoroughly clean the lock, pan and touch hole. Check that the lock mechanism works correctly.
3. Remove the barrel occasionally to clean the underside and the channel in the stock.
4. The lock may be removed for internal cleaning and a light oiling. Always remove the lock before the barrel but replace the barrel before the lock. With a firelock, always remove the lock whilst it is in safety mode.
5. Make sure that the pan cover is secure and spark-proof and has not become slack.
6. Scouring sticks are subject to a lot of strain during use so check that the brass end (if fitted) is secured and there are no splits in the wood. Check ease of movement in the scouring stick channel.
7. Clean and polish any metal furniture.
8. Clean and polish the stock. Check for any splinters or damage.
9. Check all screws using the correct size driver.

### *Associated Equipment*

10. Ensure that the 'cut off' on the powder flask/horn works correctly; black powder deposits can build up and jam the mechanism. Cleaning should restore the function.
11. Check bandolier bottles, tops should be secure and there should be no loose thongs.



## 10 Musketeer's Accessories

- Powder flask, bandolier and / or cartridges.
- Wadding. This should be dry at all times and loosely 'scrunched', not tightly rolled.
- Slowmatch and matches or lighter, or flints and flint leathers
- Touch hole pricker. (This should be of brass or copper to avoid sparks.)
- Cleaning rods and rags.
- Pan cleaning brush.
- Light gun oil.
- Screwdriver and pliers.
- A worm, which may be attached to the cleaning rods or scouring stick, is a useful extra. The worm should be made of low ferrous metal.

## 11 Manufacture of Muskets

The following minimum standards have been set out for the guidance of all concerned. The non-destructive tests are to minimise any possible risk from muskets already in use and to ensure a continued high standard.

Please note that if anyone buys an item with which they are then dissatisfied, they should seek redress directly from the person from whom they purchase.

### ***Minimum Standards for the Manufacture of Muskets***

Barrels:

- to be made from steel tube to BS 3602. 1978 PART 1 CFS 360 CAT2., or better.
- to be proofed to a minimum ½ oz blank, or service load.
- to be silver soldered.
- to be uniquely numbered and manufacturer's mark to be stamped on them.
- the minimum bore to be 5/8ths of an inch.
- the minimum barrel length to be 29 inches.

All modifications or alterations, including brazing etc carried out on any barrel invalidate proof. The barrel must be submitted for reproofing in accordance with the Gun Barrel Proof Act if alterations are made.

Locks, Triggers and Guards, Pans and Covers:

- All to be used in a good working condition.
- Silver soldering to be used where appropriate.

Stocks:

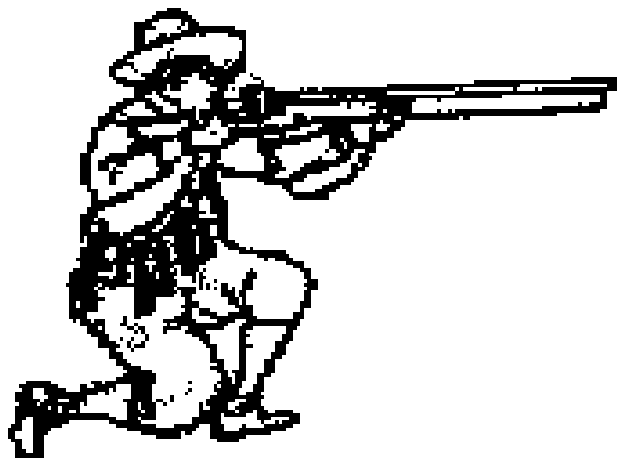
- To be made to a suitable pattern and well finished so that all metal parts fit well and securely with no unnecessary gaps.

### ***Non-Destructive Tests***

All barrels purchased before the 5th April 1987, should be x-rayed or ultrasonically tested as soon as possible. It is suggested that this be repeated every three years for all hand held weapons that are used regularly.

Barrels that have been x-rayed/ultrasonically tested should be issued with a date certificate of testing. Any marks or numbers of the individual barrel tested should be noted on this certificate to distinguish it.

Please note that a musket barrel should only be in the possession of a person who has a current Shot Gun certificate.



## 12 Further Reading

There are many books covering all aspects of the Civil Wars, however the following may be of particular interest to the Musketeer. The list is by no means complete.

Potter R and Embleton G A	The English Civil War 1642- 1651	Almark 1973
Asquith S	New Model Army 1645-60	Osprey 1981
Peter Young	The English Civil War Armies	Osprey 1973
Keith Roberts	Soldiers of the English Civil war: Infantry	Osprey 1989
William Bariffe	Military Discipline or the Young Artilleryman	Partizan Press 1988
Reid S	Gunpowder Triumphant: The Infantry in the English Civil War	Partizan Press
Wagner E	European Weapons and Warfare. 1618-1648	Octopus 1979
Haythornthwaite P	The English Civil War 1642- 1651	Blanford Press 1983
De Gheyn J	The Exercise of Arms	Greenhill Books 1986
Firth C H	Cromwell's Army	Methuen 1902
Reid D	English Civil War Firearms	Partizan Press

### **The Health & Safety Executive (HSE) publications**

HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 6FS

Tel: 01787-881165, Fax: 01787-313995.

*'Acquisition and use of explosives by historical societies'*

ISBN 0-7176-1622-3

*'Control of Explosives Regulations 1991'*

(COER)

*'Explosives Act 1875'*

*'Placing on the Market and Supervision of Transfers of Explosives  
Regulations 1993'*

(POMSTER)

## Appendix 1

### Required Musket Competencies

Name:		Regiment:	
Date started:			
Membership No(s):			
✓ <sup>i</sup>			
<b>Part A ~ Before taking the field you should know:-</b>			
The basic postures of a musket (order, shoulder, port and present) <sup>ii</sup>			
Methods of fighting with a musket at hand-to-hand. <sup>iii</sup>			
The target areas and strength of a blow when fighting at hand-to-hand. <sup>iv</sup>			
Tested by:		Rank:	
Signed:		Date:	
<b>Part B ~ Safety and legal requirements prior to formal testing:</b>			
The loading procedure for a musket. <sup>v</sup>			
Musket safety procedures. <sup>vi</sup>			
The Sealed Knot rules on powder handling. <sup>vii</sup>			
The Sealed Knot musket testing procedure. <sup>viii</sup>			
How muskets should be stored and transported.			
Tested by:		Rank:	
Signed:		Date:	

<b>Part C ~ When coming forward for a musket test you should: -</b>	
Have a valid shotgun certificate and black powder certificate.	
Have fired the musket you bring to the test with you at least a dozen times.	
Bring all certificates and a current membership card with you.	
Bring your musket with you, if it is not yours then you need to bring the registered owner (and their licences) with you to the test.	
Bring whatever you hold powder in with you.	
Bring a sample of the wadding you normally use with you.	
Put on your full uniform and equipment.	
Bring a regimental Musket Officer or NCO with you.	
Tested by:	Rank:
Signed:	Date:

*Notes to Competency form:*

- i The tick boxes are to be completed by a Regimental musket officer or NCO or Brigade Musket Officer.
- ii This form tests the musketeer's competency at regimental level. Basic foot drill is required for all new common soldiers.
- iii Holding the dummy musket lock down and keeping the butt of the musket low and towards your opponent.
- iv Pulling the force of the blow and not targeting the head and face, the elbows, knees, solar plexus and soft private parts.
- v The new musketeer should be able to explain the theory of loading and firing a muzzle loading weapon.
- vi e.g. not pointing it directly at people, safety ranges, recognising when another musketeer has problems with their musket.
- vii How it is issued and returned to the magazine.
- viii See Part C

## Appendix 2

### ***Sealed Knot Musket Test and Competency Document***

Name:	Regiment:
Membership No:	
Address:	
DOCUMENTATION	PASS / FAIL / N/A
Regimental Competency Document presented?	
Certificates / SK Membership card valid?	
Shotgun Certificate Serial Number.	
Shotgun Certificate expiry date.	
Black Powder expiry date.	
Length of service as a 'Dummy' musketeer.	
EQUIPMENT	
Musket in sound and clean condition?	
Barrel in proof?	
Scouring stick the correct length? If tipped, is tip secure? Scouring stick secure when 'home'?	
Working lock and trigger guard?	
Pan cover fits well and securely?	
If flintlock, ensure 'half-cock' (safety) is secure.	
Bandoliers: made from wood, tight fitting tops, safe thonging.	
Powder flask: Check construction. Check measure is correct and has a flash proof closure. Check for leakage.	
Sample of wadding: correct size and material.	
Snapsack : canvas, leather, spark proof and can be closed?	

SKILLS		
Demonstrate basic postures (Shoulder, Port, Present)		
Demonstrate the loading procedure for a musket and talk through the actions, noting safety points.		
Explain musket safety procedures and safety distances.		
Explain methods of fighting with a musket at hand-to-hand.		
Explain target areas and strength of blow when fighting with a musket at hand-to-hand.		
Question method of filling the bottles.		
Explain how cartridges are made, measured and carried?		
How will the candidate light, carry and extinguish match? (if relevant)		
Demonstrate misfire / hang fire procedure.		
Demonstrate knowledge of SK rules concerning powder handling.		
Explain cleaning procedure.		
Explain maintenance procedure.		
Explain how the musket should be stored and transported.		
Candidate:	Tested by:	Date:
Sign	Signed:	Test Stamp:
Date		

## Appendix 3

## Personal Log of Events and Updates

[illegible]



## Appendix 4 – COSHH Data Sheet - BLACKPOWDER

Under Health and Safety Regulations, the Sealed Knot Ltd is required to make available the following COSHH data sheets to all persons within the Society who use or may come into contact with blackpowder (gunpowder).

### PRODUCT SAFETY DATA SHEET

Conforms to EC Directive 91/155/EEC and Regulation 6 of the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994.

Reference no: PSD 311

Issue no: 5

Issue date: May 97

The products described herein are listed under UN Dangerous Goods, and should not be handled or used until the regulations concerning possession and use for this class have been studied and fully understood.

#### 1. *Product Nomenclature / Identification*

Commercial name: Blackpowder TPPH, NPXF, FO/Triangle, Rocket 81, 4FA. 5FA. NPCG, NPMG, NPSG, Meal A. G7, G40, G20, TS2, SFG90, SFG40, SFG12

CTFA name: ICI Explosives Europe, Roburite Centre, Shevington, Wigan, Lancashire WN6 8HT Emergency telephone no.: 01928 572000

#### 2. *Composition & Information on Ingredients*

<b>Material:</b>	<b>Nominal %</b>
Potassium Nitrate	> 76%
Carbon	< 6%
Sulphur	<7%
Graphite	>0.2%
CAS registry no:	Does not apply to explosives
EINECS no:	Does not apply to explosives

#### **Risk phrases:**

R3 Extreme risk of explosion by shock, friction. fire or other sources of ignition.

R5 Heating may cause an explosion.

R6 Explosive with or without contact with air.

R44 Risk of explosion if heated under confinement.

#### **Safety phrases:**

S1, 2, 3, 4, 8, 9, 15, 16, 18, 21, 35

### 3. **Hazards Identification**

Danger:

Explosives: Designed for mining applications and firework use. Initiated by spark, flame or applied shock.

Flammable: No

Toxic: Moderate toxicity to plant and animal life.

Irritant: Mild irritant to eyes or open wounds.

### 4. **First Aid Measures**

Exposure routes –

Eye contact: Wash liberally with cold water

Skin contact: Wash with soap and water

Inhalation: N/A

Ingestion: Drink copious amounts of water and seek medical attention.

Symptoms/effects: Vomiting

Specific treatment required: If large quantities are ingested vomiting should be induced.

### 5. **Fire-Fighting Measures:**

Extinguishing media: If product is on fire, all personnel should retire immediately to a safe location some distance away from the fire.  
High risk of explosion if involved in fire.  
Large quantities of water may be used for cooling purposes if product is at risk from fire/heat.

Extinguishing media not to be used:

All other media

### **Exposure hazards -**

Resulting gases: Nitrous fumes, nitrogen, carbon dioxide, carbon monoxide, sulphur dioxide.

Combustion products: Nitrogen, sulphur dioxide, water vapour, carbon dioxide and or carbon monoxide.

Protective equipment for firefighters:

As HAZCHEM / UN 0027 requirements.

**6. Accidental Release Measures:**

## Personal precautions –

Removal of ignition sources:	Yes
Provide adequate ventilation:	No
Provide respiratory protection:	No
Control dust:	None
Prevent eye and skin contact:	Yes

## Environmental precautions –

Keep away from drains/groundwater/soil:	Yes
Alert neighbourhood:	N/A

## Clean-up methods –

Use absorbent material:	No (repack in polythene bags and appropriate packing cases)
Use binder	No
Dilute with water	Do not use steel tools
Never use with:	Water
Neutralise with:	-

In addition refer to information under Sections 8 & 13

