So you've got yourself a matchlock - congrats! Now you need all the other stuff to shoot, either theatrically or at the range. Getting all the bits and bobs for black powder guns can be quite a chore. Order it now, don't wait until you've only got a week to get essentials like priming flasks, match and powder.

- Powder -

Specs = FFFF for the priming pan, either FFF or FF for the main charge. Standard recommendation is to use FF if the ball size is over 50, but I use FFF for my 73 caliber/12-gage so it can work for either theatrical or throwing ball, works fine with less fouling.

Source = Since black powder is an explosive rather than a propellant like smokeless powder, many gunstores can't store or sell it -- so call first to see if they have the grade you need. Try to buy it through your local black powder muzzleloading group - it is usually much cheaper that way.

- Ball -

Specs = Hard to avoid the whole rifle-thing, where sellers assume you are using a rifled barrel and sell you ball that is too tight/large for a smoothbore. Ask the person you bought your gun from or friends for the exact size of ball for your specific gun. For fun shooting you can use ball with the sprue attached, but for competition it is best to use tumbled ball / sprueless.

Source = If you have a standard barrel size, you can get ball from some gunstores, from Cabelas and other large online suppliers like Dixie Gunworks.

Avoid spending lots of cash on the whole ball-casting apparatus and tools -- a lot of hassle and toxic waste for a small return -- only go there if you have a non-standard (aka pipe) barrel and/or have already had children (lead contamination).

- Wadding and Patch -

Patch is different from wadding. There are two kinds of patch - cleaning patch and shooting (ball) patch. Cleaning patch is usually square; ball patch is circular, often lubricated and packaged showing the thickness on the label. Ball patch is used for wrapping around the ball to stablize it as it comes out of the barrel. All the commercial patch that I've seen is cotton, often striped pillow ticking.

Wadding is the alternative to patch, but is much less accurate. Wadding is commercially available in common shotgun (and other large- calibre) sizes and essential for blackpowder shotgun shooting. It is a lubricated cylindrical lump of fiber (often yellow) that can be placed over the charge and under the ball, or on top of the ball to hold it onto the charge, or both.

I can't find commercial lubricated or unlubricated ball patch in a large enough size for my 12-gage barrel and 71.5 ball, so I use 2.5" square cleaning patch saturated in a non-water-based black powder lube/solvent. Lubricated patch is highly recommended, as it greatly reduces the number of times you have to clean the fouling out of your barrel, as well as minimizing the chance that you will get the ball and patch stuck partway down the barrel.

The alternative to using lube/solvent is to wet the patch in your mouth before placing in over the barrel, which is why most un-lubed patch is packaged as “sanitary”. Bu’ it doth cauth a werry dwy mouthe...

- Bandoliers of Flasks (incorrectly called “Apostles”) -

Specs = Many shooters avoid using the “built-in” wooden primer flask, as they are not as safe as flasks with a spring-close spout, so only buy it if it’s included in the deal. The ball-bag is nice to have (even if used for wadding or other stuff), the vent-prick is essential, but the oil-bottle is mostly for show.

Some are different sizes (length of bandolier strap), so be sure to get one that will fit you. Most have twelve bottles, but this isn’t required, nicer to have more. Bottle-types vary, most important is that they open one-handed, but don’t open by themselves if you run about whilst wearing the bandolier. The interior of the bottle must hold enough powder for your charge -- ask the maker what they hold in grains. The little metal rings on the strings can be nice, but are not required to have the bottles handle correctly.

Blue-painted bottles were standard issue for some English Parliamentarian NMA units but not all, and these also had special blue & white twisted strings for the bottles.

Source = Paul Meekins in the UK makes the best (http://www.bandoliers.co.uk/), his prices aren’t much more than other less-authentic sources in the States, order the longer strap extension. Best US source is Sykes Suttlery (http://sykesutler.home.att.net/musket2.htm).

- Gun Tools (screwdriver, vent prick, etc) -

Specs = Most matchlock pan covers are built with a standard slotted adjustment screw, and it can be critical that the tension on this screw is properly adjusted to avoid misfires and loss of priming powder when loading. Different makers use different drill sizes to make the vent hole into the barrel, so vent pricks must be properly sized for each gun as well as made from flexible metal. Another handy tool is a worm tip for your ramrod or cleaning rod, as this allows you to recover cleaning patch from the barrel. Many black powder shooters have to run wet patch down their barrels every few shots to avoid fouling, but if the patch comes off the cleaning jag/ramrod tip and jams in the barrel, it can ruin a day’s shooting!

Source = Most bandolier makers and black powder merchants sell vent pricks, but the local blacksmith can be your best source for a hand-forged combined vent prick & screwdriver tool. Hang this tool from the bandolier, so it will be handy when you need it -- and won’t get lost. The “patch worm” tip can be carried in the ball bag if it screws into your ramrod end, or with your cleaning kit.

- Priming flask -

Specs = There has been a lot of discussion on which priming flask to use. The primary injury in matchlock shooting is powder flakes in the eye, usually from the shooter’s priming pan on your left. Less common but much more serious is primer flask explosions, which can cause serious injury to hands and bodies. These are

caused by residual hot ash/sparks in the pan, or sparks feeding through the touchhole from the barrel. The shooter pours the priming powder into the pan onto this spark, which then feeds back into the flask and explodes.

My theory is that the safest priming flask is one with the least amount of metal and potential compression, with leather flasks heading the list. Use a standard primer flask spring-spout, then make a sewn leather body for it. Alternately, use the smallest flask you can find, and only fill it for the required number of shots. The Baby Flask has a metal body and is commonly used for blackpowder pistol priming, and can be strung on a cord by twisting wire through the screw-holes.

Source = Most authentic are the larger triagular wooden priming flasks with metal trim, nails, and metal spouts. Best source for these is Sykes Suttlery (http://sykesutler.home.att.net/musket2.htm), who is also good for match and OK for bandoliers of flasks. For small metal flasks try Dixie or Cabelas (ACW-embossed pistol flask Cabelas Item: XB-210257, Price: aprox. $22).

- Ram/Cleaning rods, and materials -

Specs = Unless you have a short-barreled gun, matchlocks need longer cleaning rods than modern shotguns, so check the length before ordering. Cleaning rods have different end-thread sizes, so be sure the rod-end and all brushes match! Tornado brushes are great for smoothbores but are hard to find, so most of us use the standard brass shotgun-type brushes if they are close to the correct diameter.

If you want to build a combination ramrod/cleaning rod, be sure to measure the exact diameter of the shooting ramrod, and order that size of threaded end -- easy to purchase threaded ends larger than the ramrod diameter that won't fit into the stock. For the stock/clean end of the shooting ramrod, buy a smooth (not flared) fitting with a center hole with either of the two standard thread sizes -- 8/32 or 10/32. Then buy a patch worm and ball extractor this threaded end. The patch worm is critical, as you need to clean the fouling out of your barrel on the range, and if you lose the patch in the barrel you can retrieve it with the worm and don't have to stop shooting. For the screw-on cupped fitting for the dirty/business end, get it as large in diameter as you can within 3-5 calibres of your barrel size, as this helps center the ramrod/ball/charge. Use brass nails to fix ends to the ramrod, as having the end come off is VERY bad juju. This is also why you want a separate ramrod without brass ends for skirmishes, as you won't have to worry about really killing your friends.

MARK YOUR RAMROD - It is critical to get the ball **all the way onto the charge**, as you can blow up your musket if you don't. Any gap between ball and powder can cause enormous backpressure -- this is how a thin plug of mud or snow causes commercial shotgun barrels to explode.

The best way to check your load is to clearly mark your shooting ramrod. Load the standard powder charge and drop the ramrod onto the charge. Take a knife and score the ramrod end at least 1/2 way around the circumference to mark this position. Now load ball (ramming firmly) and again mark this new position.

With a marked ramrod you can check to see if you have just a charge, or a charge and a ball down the barrel. Sounds strange, but it is very easy to get distracted when loading, and then you find yourself wondering, "Did I already load powder and/or ball??" Dry-ball (loading ball without powder) is the bane of the black powder shooter, often resulting in a trip to the gunsmith or a friend with a ball extractor.

Most black powder shooters clean their guns with hot water and dish detergent, but others use black powder solvents (different from smokeless powder solvents) or custom alcohol/soap/peroxide mixes - ask around. You can either buy cleaning patches or make them from cotton rags. Use fine sandpaper or steel wool to clean the

powder and dirt off the outside of the barrel, pan and lock. Pull the lock often to check for water or rust inside the plate. Use gun oil to cover the inside and outside of the barrel and lock, and you may also wish to oil or wax the stock after cleaning.

Source = Dixie Gunworks (http://www.dixiegun.com/) is a good US source for one-piece wooden, metal and composite rods, as is Cabelas.

- Gun cases -

Specs = You can't travel with your gun on airlines without a locking gun case, and hard-sided cases also offer excellent protection for your guns for regular shooting trips or storage. The Cabela's case is long enough for matchlocks, very thin and fits under most van seats. Soft cases / gun sleeves need to be extra-long, so ask for ones that will hold a "Kentucky long rifle".

Source = Best deal is Cabelas Muzzleloader Hardcase, Item: IK-216935, Price: aprox. $130. Check length measurements on your gun and cases before ordering. Soft fabric/leather sleeves can be bought at some gun shows as well as Cabelas and Dixie.

- Match -

Specs = Cord MUST be braided not twisted, as the twists un-wind during burning and often miss the pan. Braided hemp is wonderful but even more difficult to find than cotton sash cord without the plastic core, and may require more nitrate to burn evenly than the same amount of cotton cord.

For the nitrate, use Nitrogen fertlizer with at least a 12% Nitrate (KNO3) content, the bag will usually have a label showing it as a fire hazard and oxidizer. This is the same stuff car bombs are made from, so it may be controlled or hard to find - check a feed store or garden center.

Directions on how to make match are on Carl's Slow Match Website (http://www.metamuseum.com/us/slow-match/). It is easy to experiment, as nitrate can always be added or removed by soaking the match again in various strength solutions. Carl strongly recommends pre-washing the cotton sash cord to remove starch and/or sizing. I just fill a pan with water, stir in nitrate until the water won't hold any more and it begins to precipitate out, then plop the coil of rope into the solution for an overnight soak, flipping it occasionally. The critical thing is to DRY THE MATCH HORIZONTALLY -- lay it out on a hedge, lawn or screen - or all the nitrate runs to the low end of the match and will burn unevenly.

Source = You can buy match from Sykes. Finding braided cotton cord without the "reinforced" plastic core can be difficult, but some hardware stores have 100% cotton non-reinforced sash cord by Bevis Rope Co. on spools. If you get cord with the plastic core, cut it into 3' lengths and pull ALL the plastic out with pliers.

- Thorne
http://www.luckhardt.com