How To Inspect Combat Archery Bows & Crossbows

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*This is a **quick reference guide** for inspecting combat bows and crossbows. This is not a replacement for the information in the Combat Archery Fighter and Marshal Handbook or on* ***http://www.35footspear.com/***

As a Combat Archery Marshal in Training (CA-MIT) or a warranted Combat Archery Marshal, you must know the most current inspection standards. There may have been additions or alterations to the standards since this was published. It is YOUR responsibility to keep up to date on all changes to the Middle Kingdom Combat Archery inspection standards on the Marshal's website and the 35-Foot Spear website.

The following process has been written to help you make sure that you remember to check all of the standards along the way. Start at the beginning and go through in order to the end. Make sure you address all of the questions in each section. Some essential details are included after many questions, though you may come up with more.

General ideas when inspecting bows/crossbows-

Make sure you have a good place to work, especially if there will be a lot of inspections that day. Having a chair/stool and shade (or rain shelter) can go a long way toward having a pleasant day.

Have all your equipment ready. A rules binder (hard copy or digital), bow scale, draw length gauge, tape measure and tip diameter gauge are required. Recommended items include: calculator (for calculating inch-pounds of crossbows); pen and paper; red duct tape if limbs need to be marked; inspection stickers or paint for larger events; bowstring wax.

As you inspect, feel free to ask the archer for additional information or assistance as needed. You may have them draw their bow, steady their crossbow, write numbers for calculation, etc.

MINORS- (16 & 17 year-olds) If they don't have a parent or legal guardian present, they must show their "Medical Authorization Form for Minors" at the list table. It is not our job to check it, but remind them to do it anyway.

Passed Bow/Crossbow-

If inspection stickers are being used at an event, put the sticker on the inside of the top limb for bows and on the right side of the stock for crossbows. You may want to write the poundage on it and cover it with clear tape.

Failed Bow/Crossbow-

Explain any reasons for failure to the archer. If the problem is fixable (such as rewrapping the serving, or getting a new string), explain what the archer can do to make the weapon usable. They must bring it back for re-inspection if they can fix the problem before the fighting begins.

Prohibited Equipment and Features

- Hand slings
- Stone bows
- Small pistol style crossbows
- Forward or rear style pistol grip/s
- Combat archery crossbows which utilize a mechanical advantage cocking lever (sometimes called a "Goat's Foot")

- Chinese repeating crossbows or repeating crossbows of any type
- Split prod design for crossbows utilizing a center shot system (an individual prod on each side instead of a solid one)
- PVC bows
- Non-Society period sights, spring/flipper rests, plunger buttons, stabilizers, clickers, or modern release aids
- Compound bows and compound crossbows

BOWS

Bows should be strung before they are presented for inspection. If an archer brings you an unstrung bow, ask them to string it. If the archer has a question about the safety of the bow, they may ask you to check it before they string it. You must completely re-inspect the bow after it has been strung.

General.

- Is it an appropriate design for the SCA time period?

  It shouldn't look hideously modern

- Does it have any of the prohibited features?

Check the bow string.

- Is it the correct length?

  Manufacturers often mark the correct string length on the bow. If so, use it.

  "Rule of Thumb" is only approximate.

- Is the string overly twisted?

  The bow poundage should be checked without excessive twists in the string, since the bow's draw weight can vary depending on the amount of twist in the string.

  Flemish Twist strings are the exception.

- Is there any metal on the string?

  Nocking points are the only allowed metal.

  Fail if any other metal present, especially metal clips used to make end loops.

- Are there any knots in the string?

  Fail if present.

  The only exception is a knot that has been used to create an end loop; the knot must remain tight and not move. This is sometimes used with a non-traditional type of string. This is not common, and not encouraged.

- Are the end loops good?

Loop bindings must be securely wrapped and unbroken. Strings without loop bindings must not have any broken strands.

Fail if bad enough.

- Are there any broken strands?

  Only one- use your judgment about failure and inform the archer. On a light bow, one broken strand is not normally an issue, though you should recommend that the archer replace the string. On a heavy bow, any broken strands will probably be a failure.

  Fail if two or more strands are broken.

- Is the string or serving frayed or fuzzy?

  Slight- Inform the archer, but it is not an automatic fail.

  Fail if there is significant fraying of the string OR the string is exposed through the serving OR the serving hangs away from the string.

- Is the string dry?

  NOT a reason to fail, but suggest wax to the archer. Dry strings deteriorate faster than waxed ones.

Check the condition of the bow.

- Check the surfaces of the upper limb from the tip to the handle.

  Look at the front side, back side, and both edges.

- Turn the bow over and check the surfaces of the lower limb from the tip to the handle.

  Look at the front side, back side, and both edges.

- Check the tips and handle.

- Are there any cracks or stress cracks?

  Wood Bows- Small chips/scrapes in the finish are ok if they do not affect the wood. If any layers are delaminating, the bow fails.

  Fiberglass Bows- Very small chips/scrapes must be judged on a case-by-case basis. Since fiberglass usually has no finish, any marks may affect the fiberglass.

Check for limb twist.

- Does the string line up with the center of each limb?

  Check the top limb, then the bottom limb.

  Process- With one tip on the ground, hold the other tip with your finger/thumb. Sight down the string at the back side of the limb, and line up the string with the sight window or center of the bow (as appropriate). The string should line up with the center of the limb.

  Fail if there is significant limb twist.

  If it is only a little off, the bow is probably ok, but inform the archer of the problem.

- Does the string stay centered when the bow is pulled?

  Stand behind the archer as they draw, hold for a few moments, then slowly return the string to rest.

  Watch if the string pulls off-center at either tip (check both).

  Fail if there is significant limb twist.

  If there is only a slight limb twist, check further for safety.

Check the draw length.

The bow must be designed to be drawn at least 28 inches!

- Are the specifications marked on the bow by the manufacturer?

  Fail if marked for a different length, especially shorter.

  If marked for at least 28 inches (and the string length is correct), go on to check poundage.

- Are the specs missing?

  Using a bow scale and draw length gauge, draw to about 26 inches. You may ask the archer or another CA Marshal (or another archer, if necessary) to do this part. Just make sure that the bow scale is on properly and that the bow is aimed in a safe place.

  If the bow looks like it is at full draw, return the string to rest and fail the bow.

  If the bow looks like it is not at full draw, continue pulling to 28 inches and see if that looks like the proper draw length. If the draw length seems to be at least 28 inches, go on to check the poundage.

Check the poundage and limb marking.

- Using a calibrated bow scale, measure the poundage at 28 inches.
- Is it 20-30 pounds?

  It is a Light Bow.

  It may shoot either shafted or tubular ammunition.

- Is it 31-50 pounds? Is it marked with red?

  It is a Heavy Bow.

  It must have 4 inches of red material all the way around the upper limb.

  Red material on both limbs = Fail

  It may shoot ONLY tubular ammunition.

- Is it less than 20 or over 50 pounds?

  It is too weak or too strong. It fails.

  If the reading is really close to 20, 30, or 50 pounds, measure again.

CROSSBOWS

NOTE- A crossbow should always be strung when presented for inspection.

If you are unfamiliar with the crossbow style, get assistance from another CA marshal with more knowledge of the style. If not possible, ask the archer to describe and explain its features.

Check the condition of the crossbow string.

- Is it the correct length?

  Fail if the sting is loose (no tension) when the string is at rest (crossbow is uncocked).

- Are there any knots in the string?

  Fail if there are any knots.

  The only exception is a knot that has been used to create an end loop; the knot must remain tight and not move. This is sometimes used with a non-traditional type of string (such as parachute cord, braided utility cord). This is not common, and not encouraged.

- Is there any metal on the string?

  Fail if any metal is present, especially metal clips used to make end loops.

- Are the end loops good?

  Loop bindings must be securely wrapped and unbroken. Strings without loop bindings must not have any broken strands.

  Fail if bad enough.

- Are there any broken strands?

  Fail if **any** strands are broken.

- Is the string or serving frayed or fuzzy?

  Slight- Inform the archer, but it's not an automatic fail.

  Fail if there is significant fraying of the string OR the string is exposed through the serving OR the serving hangs away from the string.

- Is the string dry?

  NOT a reason to fail, but suggest wax to the archer. Dry strings deteriorate faster than waxed ones.

Check the condition of the crossbow.

Examine each part closely on all sides.

- Is the stock structurally sound?

  No cracks, especially between the prod and lock mechanism.

  No loose hardware, stripped screws, etc.

- Does the lock mechanism operate smoothly?

Smooth release under simulated pressure.

It will not fire accidentally. Fail if the mechanism will allow it to fire unintentionally.

Is the prod securely attached to the stock?

It should not slide back and forth at all. Make sure it is centered.

It should not move or wiggle much.

Fail if excessive movement.

- Is there any visible stress damage on the prod? (cracks, gouges, or discoloration)

  If the prod is wrapped, check all visible surfaces thoroughly, especially the nock ends.

  If the prod is not wrapped, check the surface of the entire prod.

  Fail if any damage is visible.

  Metal Prods- parallel cracks may indicate metal fatigue.

  Fiberglass Prods- lighter color areas may indicate separating fiberglass.

  Laminated Prods- no delamination allowed. These prods are rarely seen.

Check for prod twist.

NOTE- Limb/prod twist on a crossbow is rare. The ends of fiberglass prods occasionally have a very slight twist, but very seldom. If the prod is off-center, it may cause the false appearance of a prod twist.

Check the inch-pounds and limb marking. (inch-pounds = draw length times poundage)

Measure the distance from the front of the string in its at-rest position to the point where the string sits in its fully-cocked position (in inches). This is the Draw Length.

Use a calibrated bow scale to determine the poundage.

Hook the bow gauge onto the string at rest. Pull the bow scale to the rear and stop when you're even with the locking mechanism. Keep the hook of the bow scale as close to the center of the string as possible. This is the Poundage.

Multiply to get inch-pounds.

- Is it 400-600 inch-pounds?

  It is a Light Crossbow.

  It may shoot either shafted or tubular ammunition.

- Is it 601-1,000 inch-pounds? Is it marked with red?

  It is a Heavy Crossbow.

  It must have 4 inches of red material all the way around the right prod.

  Red material on both prods = Fail

  It may shoot ONLY tubular ammunition. (Confirm this with the archer.)

- Is it less than 400 or over 1,000 inch-pounds?

  It is too weak or too strong. It fails.

If it is really close to 400, 600, or 1,000 inch-pounds, measure the distance and poundage again. Recalculate the inch-pounds.