

Simple Maintenance for Archery

Easy things you can do
to maintain your equipment

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Table of Contents

Part I: Arrows

Chapter 1: Installing and Replalcing Nocks.	2
Chapter 2: Fletching Arrows	8
Chapter 3: Cutting Arrows	25
Chapter 4: Installing and Replacing Points	29
Chapter 5: Checking Arrows	32

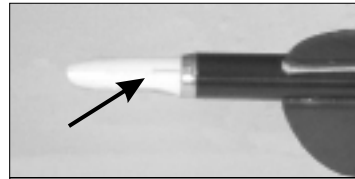
Part II: Strings

Chapter 6: Starting and Finishing a Serving	36
Chapter 7: Replacing a Center Serving	43
Chapter 8: Adding a Loop to a Compound Serving	48
Chapter 9: Serving on a Nocking Point	52
Chapter 10: Making the Nocking Point Fit the Nock.	56
Chapter 11: Installing a Peep Sight	58
Chapter 12: Installing a Kisser Button	63
Chapter 13: Waxing the String	69

Part III: Sights

Chapter 14: Getting More Distance on the Sight Bar	73
Chapter 15: Aligning the Sight Bar to the String	75
Chapter 16: Leveling the Scope Level	78
Chapter 17: Centering the Sight Pin	83
Chapter 18: Changing a Sight Pin without Losing the Windage.	86

Most nocks have a small raised nib or ridge on one side. This is an index and should be aligned with the index fletching. Feeling the nib with your fingers, you can nock the arrow on the string in proper alignment without looking at it.



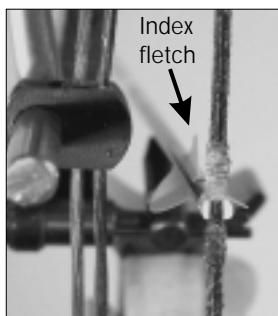
The index nib on a nock. This should be lined up with the index fletching.

The alignment is different for a release and a finger shooter because of the type of arrow rest each needs.

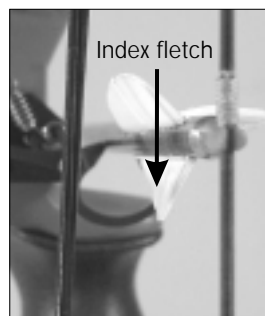
Nock Alignment for Release Shooters – Almost always the rest used with a release is a launcher. Typically, the index fletching points either straight up or down, parallel with the string. The slot in the nock should be in line (parallel) with the index fletching.

Nock Alignment for Finger Shooters – Finger shooters, whether compound or recurve, use a rest and a pressure button or some other type of pressure point. For this arrangement, the nock slot is perpendicular to the index fletching so the other two fletchings have the greatest clearance as the arrow passes the bow.

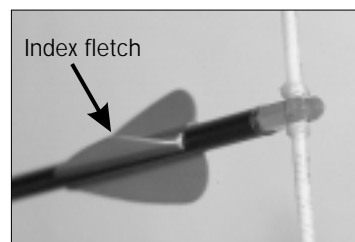
When replacing a nock, align the nock so it matches the others. All arrows in a set should have the same nock alignment.



Nock alignment for single-piece launchers that have a V notch or narrow bend on which the arrow sits.



Nock alignment for launchers with either a fork or a gap that allows the index fletching to pass.



Nock alignment for finger shooters. The slot of the nock is perpendicular to the index fletching.

Parts of a Fletching Jig

Regardless of the brand, all jigs have some common parts. Find these on yours.



The nock sits over the receiver within the jig. This is the dark bar within the hole.

Receiver – This is a bar over which the nock sits. It keeps the arrow in position during fletching. Regardless of the brand, all jigs have a receiver. When repairing 3-fletch arrows, which way the nock sits on the receiver is important.

Holder – Almost all jigs that fletch a single vane or feather have a holder in which the arrow lies. The circular



The arrow sits in the holder during fletching.

design of three-fletch jigs keeps the arrow in place, so they don't have this piece.

Dial – This allows you to turn the arrow in a single-fletch jig to apply the next fletching. It should be on the end of the receiver.

Clamp – A clamp holds the fletching while the glue sets. There may be one or three, depending on the design of the jig.

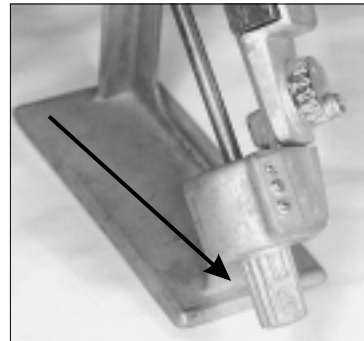
Types of Clamps – With most jigs, you have a choice of a straight or helical clamp. The clamp depends on the type of fletching you use, which is

influenced by your shooting style and the type of arrows. Information for choosing fletching is discussed under 'Choose the Fletching.'

Putting the Fletching into the Clamp – When putting the fletching into the clamp, allow the fletching to extend beyond the edges. This provides flexibility when pressing it onto the arrow shaft. If the fletching is too deep, it may be too rigid to seat firmly against the shaft; too far out, it may get distorted.



Straight and helical clamps. The helical clamp puts a mild S curve curve in the fletching.



The dial on the end of the receiver rotates the arrow in the jig. The flat surface is aligned with the receiver.

edge of the clamp contacts the jig when fletching). Most clamps have a series of marks on the back end so you can set the fletching consistently from arrow to arrow.

Determine how far forward you want the fletching. Put a mark on the arrow shaft where the back end of the fletching will be. Set it in the jig and determine which mark on the clamp is correct. Then mark the clamp for future reference.

Center the Clamp on the Shaft – The fletching should be centered on the shaft, regardless of the diameter of the arrow. This is the left-right position of the clamp as the jig holds it. Centering the clamp puts it on the highest part of the curve of the arrow. Since each arrow size is different, the jig must be set for the size arrow you'll be fletching.

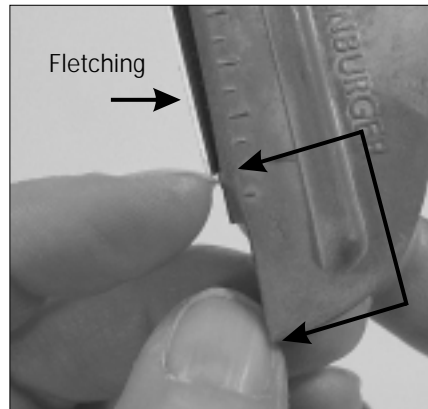
There should be a way to adjust the jig to move the clamp left-right on the arrow shaft. The exact method varies from jig to jig, so look carefully for how yours is adjusted.

Set the Offset – Arrows need to spin in flight to keep them stable as they travel to the target. Without spinning, the back end of the arrow can float or drift, creating inconsistent patterns.

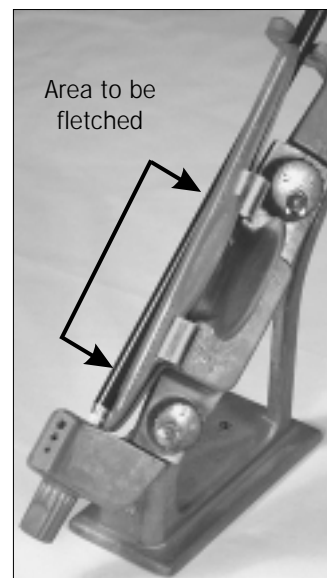
The fletching makes the arrow spin. As long as the surface of the feather or vane is positioned any way except straight along the arrow shaft, airflow past it makes it spin. The more it spins, the more stable it is, but the quicker it slows down.

Arrow speed is important for outdoor target shooting, so generally the arrows are fletched to have less spin. Speed is not as important indoors because there is no wind and the distance is short, so lots of spin may be desirable.

Getting the arrow to spin is done one of two ways – by setting the vane or feather at an angle to the shaft or using a helical clamp. Both allow the vane to present a surface to the airflow. How much the arrow spins depends on the an-



The distance between the end of the fletching and the end of the clamp sets how far the back end of the fletching is from the nock. Use the same mark for all fletchings.



Straight clamp offset and centered on the shaft. This is a left offset. Also, the fletching will be towards the back of the clamp, so the top of the clamp looks farther off than necessary.

Cut the Arrows

Note: A couple cautions before beginning.

1) Cutting carbon arrows produces carbon dust, whether the arrow is completely carbon or carbon/aluminum. Either cut carbon arrows outdoors or run a vacuum, etc. while cutting to pull the carbon dust away as it is generated. Keep carbon dust from getting in the air where it could be inhaled by you, your family or your pets. Get rid of the dust once cutting is completed.

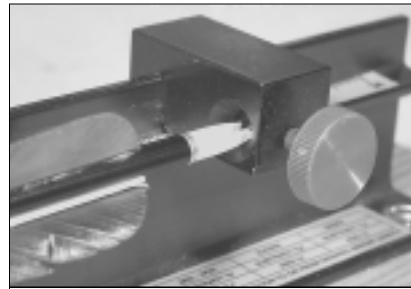
2) To protect your eyes, always use safety glasses.

1 Start the motor.

2 Place the nock in the nock cup.



The end of a vacuum hose is clamped to the motor to remove carbon dust.



Make sure the arrow nock sits in the nock cup before cutting.

3 Rotating the arrow smoothly on the cutting platform, lightly touch the arrow shaft to the cutting blade. Cut *around* the arrow, not across it. Use light pressure.

4 Continue rotating the arrow with a light touch until the extra length drops off.

5 Repeat this for each arrow.

When cutting is complete, turn off the motor.



Rotate the shaft to cut *around* the arrow, not across it.

If the arrow is straight, the point will rotate smoothly on your hand. If there is any bend, you will feel a wobble. How severe the wobble is related directly to the severity of the bend. If the arrow is severely bent, you may not be able to spin it.

Checking a Carbon Arrow for Cracks

Carbon arrows periodically need to be checked for cracks or other damage to the carbon. Occasionally an arrow cracks for no apparent reason, and an arrow can get cracked if it hits something solid it passes on a miss. Shooting a damaged arrow is dangerous; it is particularly dangerous with completely carbon arrows, as they can shatter.

IMPORTANT: Handle a damaged carbon arrow carefully. The carbon in the damaged area is generally rough and often has splinters on the edges of the crack or break. If you accidentally get a splinter, make sure to remove all of it, *no matter how small*. It may be good to have a doctor check to be sure there are no fragments remaining.

Aluminum/Carbon Arrow Shafts – Under good light, look carefully for the following damage. Do not shoot an arrow with any of these.

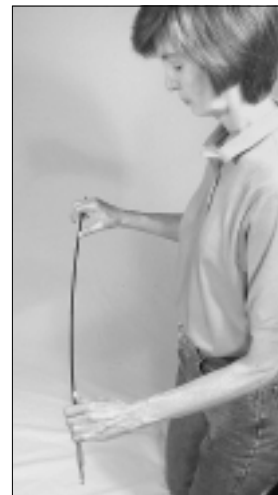
- Cracks originating at either end of the shaft. These can be hairline and difficult to see.
- Gouging on anywhere on the shaft
- Compression on the shaft

Completely Carbon Arrow Shafts – Like aluminum/carbon arrows, these must have undamaged carbon to be safe to shoot. While cracks on the ends, compression, or gouging usually are visible, it can be difficult to see cracks in the shaft, so test them carefully.

- Check the ends for cracks
- Check for compression or gouging anywhere in the shaft.

You may not be able to see a crack in the middle of the arrow shaft. To check it, hold the shaft at both ends, bend, then rotate it. Any crunching or grating indicates damage.

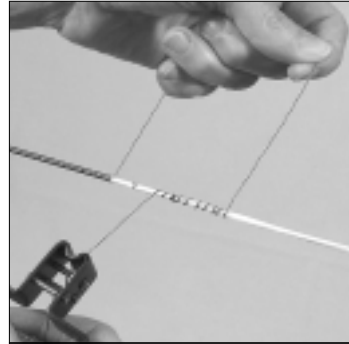
Discard any damaged arrows.



Checking a carbon arrow for cracks.

All the while, keep tension on the end coming from the wraps already served. It may take a little practice to develop the dexterity to keep tension so the wraps on the string stay in place while adding the new wraps. Initially it feels like you need 3 hands!

This is preliminary wrapping. It doesn't have to be pretty; just get the wraps around the string. *Keep the wraps from laying over one another.*



Add loose wraps inside the loop. Note the end mark on the string – in the finalhand wrapping, these must cover the string to that mark. The left hand keeps tension on the finished wraps throughout.

7. Once you have the needed number of wraps within the loop, (again maintaining tension on the wraps), loosen the tension adjustment of the jig and play out enough serving material to take the thread back past the end of the serving already done on the string. Retighten the tension adjustment.

8. Lay the serving over the end of the wraps and hold both in place with one or more fingers.

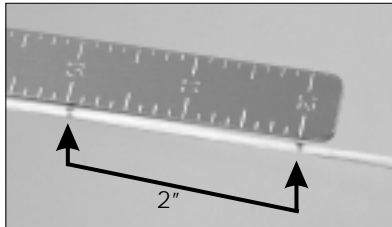
9. With the other hand, keep tension on the loop to keep it from moving, continue wrapping tightly alongside the wraps already there. (Yes, doing both can be a challenge!)

The preliminary wraps inside the loop will unwrap as you continue.

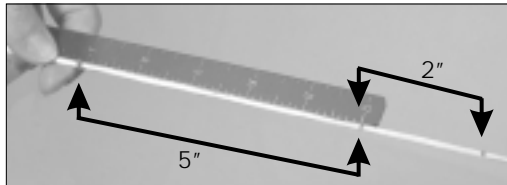
11. Hand wrap the remainder of the serving. When complete, there should be only a loop at the end of the serving. (Keep tension on it to keep it from twisting!)



Do the final hand wrapping. The thread from the serving jig is held in the left hand against the string.



Make a mark two inches above for recurve shooters.



Add five inches below perpendicular for a total of seven inches. The end of the ruler is on the perpendicular mark.

may wear when shooting. For release shooters it's similar, but can have a little less serving above.

3. **Determine the Direction of the Wraps** – Finger shooters must take the direction the serving is wound into consideration. The string rotates in the same direction the fingers come off the string at the release and determines the direction of the serving. If the serving is wrapped the opposite direction, it will eventually come undone.



On release, the string rotates clockwise, so the serving should also be clockwise.



The serving needs to be wrapped counter-clockwise for a left-hand shooter.

Looking down the string from the upper limb, the release of a right handed shooter makes the string rotate clockwise, while a left handed shooter rotates the string counterclockwise. The wraps must go in the same direction as the rotation of the string – right for right handed and left for left handed.

Therefore, using the upper mark (closer to the upper limb) for the starting point, the direction of serving for a right handed archer wraps under the string as it comes toward you (clockwise if viewed from the upper tip), moving from upper limb to the lower limb. For a left handed shooter, the serving wraps over the top of the string as it comes toward you (counterclockwise) while serving from upper to lower limb.

4. **Start a Serving** at the correct mark, moving in the direction necessary and wrapping around the string in the direction just determined.

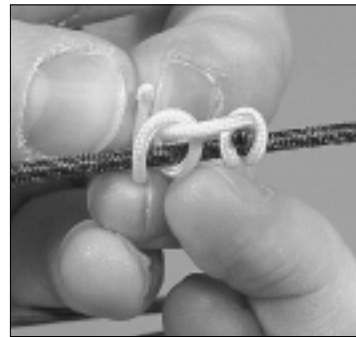
10. Take the long end of the release rope and make a larger loop (the string loop when finished) to the other side of the nocking point. With the rope on the same side of the string, take the cord around the string, then through the string loop. Then bring the end around.

11. Going around the string again, stick the end through this second small loop.

12. Pull the cord on the release loop snug to secure the knot.



Beginning the second knot.



Take the end around the string and put the end through the small loop.



The completed release loop.
Test it before shooting.

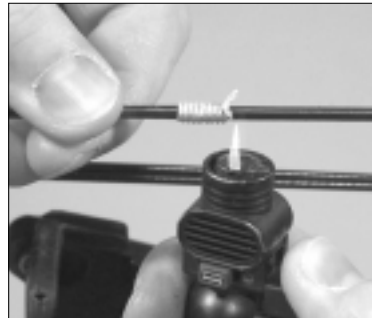
Before shooting, test it carefully to be sure both knots will hold the draw weight. With your release, draw the string a few inches, then let down. Check the knot. Do this several times, drawing farther and farther. At any point, if either bulge shows any sign of slipping through the small loop, either remove the loop, burn the ends more so the bulge is larger, and redo the knots, or use a new piece of rope, making the bulges larger.

When complete, set the nocking point. As stated before, the knots can be easily loosened to set or adjust the nocking point.

6. With the *side* of the torch flame, lightly brush the ends of the serving thread with the side of the flame several times. This melts the serving thread, creating a small ball on the end of the serving thread. It insures the knot does not come undone.

Caution: Always use the side of the flame. This keeps the heat of the flame away from the string material and melts only the ends of the serving thread.

7. Repeat on the other side of the nocking point.



Lock the knot in place. With the side of the flame, brush the ends of the serving to create a melted ball next to the knot.

Method 2 – Using Dental Floss

A nocking point served with dental floss is an alternative to the metal nock set if you're looking to reduce the weight of a recurve string. It can make a significant difference in arrow tuning if you're trying to make the arrow perform weaker.

To make the nocking point most effective, keep it relatively small. A small nocking point will hold the arrow in position just as well as a large one. If it gets large, it can interfere with the tab/glove, and besides, if you're looking to reduce string weight, the extra material just adds weight back on.

A couple items are needed for serving on the nocking point.

- Dental floss/tape or thin, strong thread. (This can be waxed or unwaxed, although waxed is easier to use.)
- Scissors
- Fast-drying glue

First determine where the nocking point should be. That is part of tuning and is not addressed here. What is important is knowing where the *where to start if you are serving a nocking point above the arrow*. Put a mark at this point.

1. Cut an 8"-10" piece of dental floss.
2. Just outside the mark (in relation to where the arrow sits), tie a simple overhand knot around the string.
3. Take the ends around to the other side of the string and tie another overhand knot.



Start the nocking point with an overhand knot.

Chapter 12

Installing a Kisser Button



The kisser button touches the lips and provides an additional reference for the anchor.

A kisser button got its name because it touches the lips – you ‘kiss’ it. By adding an additional reference point, it helps maintain a consistent anchor.

The shape of your face may or may not allow you to use a kisser button effectively. A large nose along with a somewhat strong jaw may keep your lips from coming anywhere near the kisser button, no matter how large it is. So take your facial structure into consideration.

And just touching the lips is not ideal, because skin and flesh easily move. It’s better to touch the kisser button to a tooth while maintaining the head position. Some compromise is often necessary, because the extra reference point changes the head position a little.

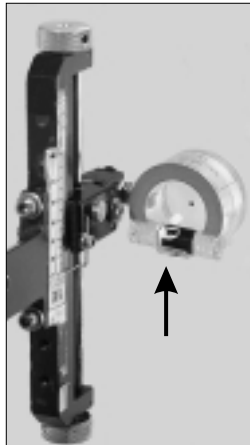
There are a number of different styles of kisser buttons, varying in size, shape, and how they are held in place. Most have a sleeve that fits around the string and a disc of some sort perpendicular to the string. One type of kisser is clamped on the string with nock sets.

Note: To serve a kisser button, you must be comfortable with beginning a serving and ending a serving, as described in Chapter 6. This serving requires a little more dexterity, so some practice with just starting and ending the serving is recommended before attempting to add a kisser button.

Installing a kisser button requires some materials.

- The kisser button
- Thin serving thread, ideally on a serving jig.
- A pair of scissors
- A bow square or ruler to make a reference mark

3. If you removed the sight block, put it back on the sight bar and adjust the scope until it is level. How to do this varies on different sights; there should be an adjustment on the sight block. Check the manufacturer's instructions, too.

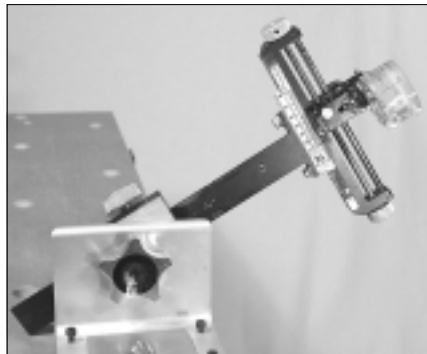


The bubble is not centered even though the sight is vertical.

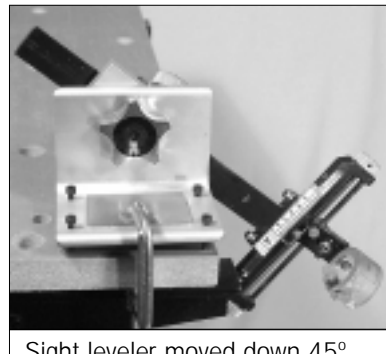


Use the adjustment on the sight block to center the bubble.

4. Move the sight leveler up to a 45° angle and readjust the scope to level.
5. Then move it down to a 45° angle and readjust the scope again.

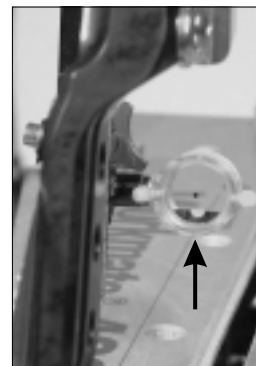


Sight leveler moved up 45°.



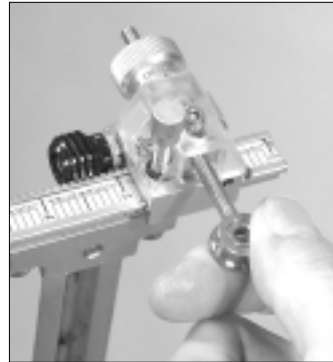
Sight leveler moved down 45°.

6. Repeat Steps 3-5 until it shows level at all three positions.
7. Reattach the sight to the bow. It is ready to shoot.



The sight leveled and ready to shoot.

3. To get the new sight pin in the ballpark, note the distance of the edge of the sight pin from the edge of the holder.
4. Remove the holder from the sight block and the sight pin from the holder.
5. Replace the sight pin in the holder with the new pin, setting the pin to the distance described in Step 3.
6. Using the micro-adjustment knob, set the windage to the center of the adjustment range.
7. By turning the pin (*do not use the microadjustment*), position the pin the same distance from the sight block as measured in Step 2. Be sure the ruler touches the same place on the sight block as it did when you marked it.
8. Shoot, making any further adjustments in the windage by moving the sight pin. Again, *do not move the microadjustment*. This sets the windage for the middle of the adjustment range. When the group is in the middle, tighten the screw(s)/nut(s) to lock the sight pin in place.



When installing the new Sight Pin, set the initial windage by turning the Pin, not the microadjustment.

Once you have the sight pin adjusted so the bow shoots on center, use the windage micro-adjustment knob for minor changes during shooting.

Method 2 – Using a Block of Wood for Measurement

This method works better for scopes on compounds, as there is no hole to mark the center through. You need a piece of wood, stiff cardboard, or anything rigid that can be marked. However, something that has some depth (like wood) is generally better, because it is easier to hold it against the sight block.

1. Remove the sight block from the sight bar.
2. Place the block of wood against the side of the sight block. It should touch an area that does not move when the windage is adjusted.
3. Mark the wood for the center of the pin, through the hole and/or above and below it.