

Don Rabska

Developing The Magic Release

One of the most important aspects of highly proficient shooting is the release. This of course pertains to all of us finger shooters out there. The release is not an easy thing to master and it takes time and practice to develop a smooth release. It will be helpful to explain what the release actually entails and that is what this article is about. Some archers have shot for many years and still have not found the biomechanical factors involved in the effortless loose of the bowstring. The best way to explain a smooth release is to examine the components that make up the release and start the process from the beginning.

As you will learn or already have learned, Archery is counterintuitive in just about every aspect of the sport. When you give a first time beginner a bow and ask them to pull it, you see nothing like what good technique should look like. If we examine each component of the shot, this counterintuitive concept is found in virtually every step of our shooting. Because we are talking only about the release in this article, just those details that are necessary to develop a smooth release are noted.

The perfect release is no exception when it comes to learning an unfamiliar process. All of our lives we have learned to physically open the fingers of the hand to let go of something. For example, setting a glass of water on the table—we simply don't let go of it before the glass is resting on the table. We set the glass down then gently open the fingers of the hand in a deliberate motion. This article explains how to overcome that “let go” process and to master the mental and physical challenges of the effortless release.

Examining Fear

A beginner is usually afraid to let the string go, so they physically and deliberately open the fingers, often one at a time in a quick progression. Unless this basic fear is unlearned, it can stay with you (to some degree) throughout your shooting career. A beginner doesn't have the ability to release the string by fully relaxing the draw hand and must be taught how to do this. Again, it is a counterintuitive act. Like the glass of water, you were not taught to simply let it go without suffering the consequences. Developing an effortless release is directly opposite of this learned action that you were taught since childhood. It takes time and practice to instantly relax





Fig. 1

the draw hand, but this is exactly what is necessary to learn to properly release the bowstring. A smooth loose of the string is simply the instantaneous relaxation of the drawing hand and is not truly releasing. The magic release is not “letting go of the string” but actually “letting the string go.”

To physically and deliberately let go of the string creates a secondary action. This is one of the main reasons that archers “collapse” on release. What happens is that they physically stop the motion of the draw, and then open the fingers of the draw hand in an effort to let go of the string. This is often followed by a soft or “fake” follow-through. Again, it is an attempt to “let go of the string” rather than letting the string go. Let’s examine this more closely to differentiate between the two concepts.

To “let go of the string” we need to physically open the fingers of the drawing hand. That means we must physically activate the muscles of the forearm (extensor muscles), which open the fingers. Because we are holding a certain amount of draw weight at full draw, the muscles of the forearm (flexor muscles) must be activated to hold the string and not allow the fingers to slip or open prematurely. But, the longer we hold the string at the full draw position, the more tension is developed in those muscles. The placement of the string on the fingers as well as the amount of draw weight play an important part in how much tension is created in the flexor muscles. There are three basic elements in the holding and releasing of the string—the position of the string on the fingers (the grip, or as I prefer, the hook), the amount of time we hold the string, and the amount of draw weight being held at full draw.

Let’s look at the time element first. The longer we hold the string the more tension we create in the flexor muscles and the more time the muscles have to “cramp,” because the effort of holding the string is reducing the amount of blood to the muscle, in turn reducing circulation. Muscles fatigue quickly, especially

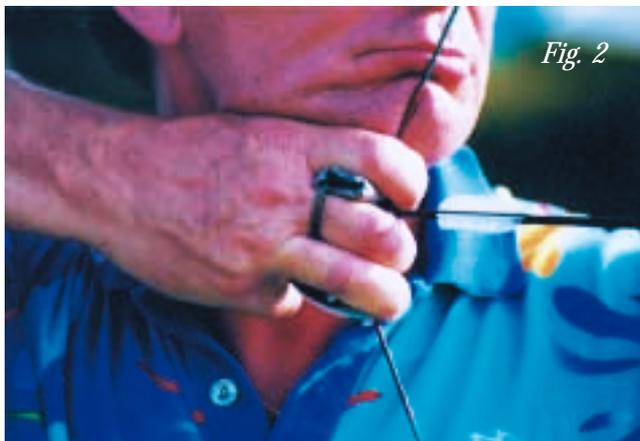


Fig. 2

when the body is in a position where gravity is not working in our favor for good circulation. For instance, the simple act of screwing in a light bulb when we have to stretch out our arm directly overhead is far more difficult and arm fatiguing than if the light

were on a table below shoulder height.

There are also four elements of finger position on the string to consider as well. These are—

- The depth of the string on the draw fingers
- The vertical location or precise up and down placement on the string
- The lateral rotation of the hand (*i.e.* fingers parallel with the string or with varying degrees of the hand turned out) and
- The pressure on each drawing finger.

String Depth

I prefer a deep hook on the string (see Fig. 1). This allows the flexor muscles to work less so they can be as relaxed as possible. The finger placement I recommend is to have the string placed in the center of the middle pad of the middle finger, directly between the first two joints. Being that the length of the index (first finger) and the length of the ring (third) finger are shorter than the middle finger, they will naturally not be as deeply set on the string, but should still be behind the first joint. If you have more top finger pressure on the string than the third finger, this will force the third finger to slide off the string. If you grip (hook) more with the middle finger and ring finger, it is easier to keep the fingers better positioned on the string. Most Korean archers hook the string like the examples in Figures 1 and 2, but a small percentage of top archers do use more top finger pressure than bottom finger pressure. Again, a lot depends on the length of your top finger vs. your third finger.

Lateral Rotation

Finger torque due to natural biomechanics is also something to overcome in learning this process. For a while, it will be necessary to fight the natural tendency to turn the draw hand out away from the string

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when approaching your anchor point. This is a very important part in developing a good release. The fingers of the draw hand should be as vertical as possible (parallel with the string, see Fig 3). However, the natural tendency is for the hand to turn out (in the direction where the palm is facing toward the ground). Biomechanically, this is the more natural position for the hand, but it is not good for releasing the string. Turning the hand out creates torque on the string and increases string amplitude (side movement) on release. That is, it forces the string to move further toward your body in the first motion of the string upon release. Turning the hand in so the little finger is turned toward the neck is not a natural feeling but can be learned and made to feel natural with practice. Again, it is counterintuitive to the natural feeling of drawing, but then again so was all of your archery technique when you first picked up a bow. As with the first time archer, the “natural” position then was to have the drawing elbow down near the waist and the bow shoulder in the ear while leaning back about 45 degrees!

When you turn your hand in so the fingers are vertical with the string, it eliminates all torque on the bowstring. When you turn our hand out (palm facing more toward the ground) you literally twist the bowstring so it is no longer a straight line. This twisting action will produce varying degrees of left arrows creating a left/right grouping pattern. The reason for this is the torque produced on the string when turning the hand out. The string torque not only promotes small changes in the sideways motion of the string (amplitude), it is also not easy to keep consistent.

Turning the hand “in”, so the fingers are parallel with the string does offer some challenges. First, it does not feel natural and it also adds some additional tension to the biceps of the drawing arm. I have always been a proponent of having a relaxed biceps, but only to the degree that you can relax the biceps within the framework of having the fingers placed correctly on the string. If the biceps of the drawing arm are not holding the weight of the bow at full draw, it is not a problem to have some small amount of natural tension in the biceps. Just make sure the muscles of the scapula are holding the draw weight of the bow. Actually, that small amount of



Fig. 3

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biceps tension is possibly preferred to help keep the release hand in tight to the neck upon release. Additionally, turning the hand in will reduce tension in the shoulder and should allow you to feel your back better. If you move only the scapula to activate the shot, then the draw hand must follow the neck on release because the “hinge” at the scapula is well behind the draw hand causing the release hand to move toward the back. Being that the neck is in the way, the hand naturally follows along the neck. In contrast, if we hinge at the shoulder (ahead of the arm connection to the shoulder) while holding the draw weight with the arm, then the release hand must come away from the face (plucking) because the location of that “hinge” is not behind the draw hand but basically even with it. If you are hinging at the arm, your draw hand has no alternative but to come away from your face unless there is literally no rearward motion of the elbow (no follow-through or the follow-through is fake and forced).

Vertical Finger Placement

When placing the tab on the string, make sure your draw fingers are located in the exact same location on the tab and that the tab is located each time in the exact same place on the string. Sometimes, we don't pay enough attention to the vertical location of the tab on the string. For example, the difference between placing the top finger against the top of the nock or sliding the middle finger up against the bottom of the nock is the difference in arrow impact

from the gold to the red or even blue at 70 meters. Therefore, even small hook location errors can cost you points. For additional accuracy, it is important to always place your fingers in the same location on the tab. This may seem obvious, but sometimes we concentrate only on placing the string in the wear groove on the tab (and the same location on the fingers) but miss the precise vertical location. If you have a moderately wide nock slot between the top and middle finger on the tab, it is critical that the tab is located in the exact same vertical location on the fingers and the finger spacing to the nock. I also suggest using a finger spacer. I have never seen a Korean archer without one.

Finger Pressure

Top archers are often asked what percentage of the bow's draw weight is placed on each finger of the draw hand? A majority will reply, 10% to 15% on the top finger, 60% to 65% on the middle finger and 25% to 30% on the bottom finger. However, trying to actually duplicate these percentages is not easy. To start, I recommend taking a deep grip on the string as discussed earlier and shown in figure # 1. The thought I like to offer here is to let the pressure develop naturally by having the idea in your mind that you will draw with equal pressure on each finger. Take that deep hook on the string, with the hand turned parallel and let your hand relax naturally while feeling equal pressure on each finger. With some practice, your fingers will develop a comfortable feel on the string. Most shooters will automatically develop percentages of pressure close to those noted above using this technique.

Where's the Magic?

The "magic release" comes when you cannot visually perceive that the release happened and that the draw hand simply moved from point A to point B. To the observer, you will not see that the fingers ever opened. It appears as though the string magically went *through the fingers* without the need to open them to release the string. Two good examples of archers who have such a shot are the famous Kim, Soo-Nyung and Lee, Eun-Kyung. Their fingers end up in the same position at the end of the follow-through as they were at full draw before the release. To create this magic, the draw hand must be as relaxed as possible. The magic release is simply completing that final relaxation of the draw hand at the moment you "feel" (hear) the clicker, while continuing to maintain your drawing motion. In this way, there is no pause of the drawing motion to release the string because there is actually no release. It is quite literally that your drawing motion continues but you are no longer holding the string.

How To Practice This Concept

At first, it is not easy to create this because of the subconscious fight to let go of the string. Therefore, take little steps to gradually develop the feeling. First start by drawing your bowstring only two to three inches. While drawing slowly, instantly let your fingers relax while in motion. Learn to continue the motion while spontaneously relaxing the fingers. You will be doing it correctly when the fingers flip back to the original position as they looked while you were drawing the bow. You will begin to notice the difference in sound the bow makes as you get better at this and you will notice too that there is less feeling of release (friction) on the draw fingers. In

other words, as the release gets more relaxed, you will actually have less string contact on the fingers. When you physically open the fingers, it is very slow. Due to the slowness of opening the fingers, the string will ride along nearly the full length of the fingers. As your release becomes more relaxed, there will be less contact on the fingers because they are flipped out of the path of the string much faster than if the fingers were physically opened.

When you have developed this feeling, then work to incorporate it into your normal shot. The time to do most of the relaxation of the draw fingers is when you come to pre-draw. In the pre-draw position allow the fingers to relax to the point where you only keep enough tension in the draw hand to keep the string from slipping from position. Pre-draw is an excellent position to work on this because you already have a good deal of the bow weight load on the fingers. Keep that same feeling of relaxation as you draw, come into anchor, continue your motion as the clicker activates and complete the final phase of relaxation of the drawing hand. That's it!

Next, monitor your finger position on follow-through. When the follow-through is completed, but before bringing your hand down from your neck, look at the position of the fingers. Are they straight, slightly straight with some curve or do they look like they did when drawing the bow?

At this point, I would like to sincerely thank all the readers of my past articles for their kind comments and encouragement. It is hard to find the time to write articles, but I do enjoy sharing my experience. Archers are the best people!

Until next time, Good Shooting!



Don Rabska is an internationally renowned archery coach and the Manager of Special Projects as well as Athlete Services for Easton Archery Products. He is a coauthor of the Easton Tuning Guide, the most widely distributed treatise on arrow tuning. Most recently Don was selected to serve as Chair of FITA's Technical Committee.