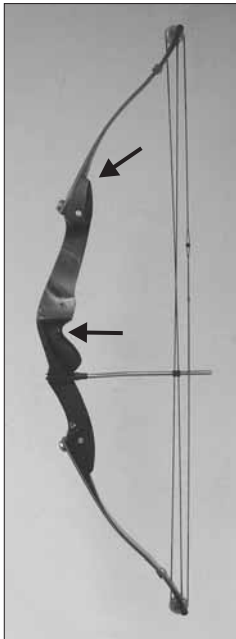


The Riser — Risers generally fit into one of three design styles: Deflex, Inline, or Reflex. In some bows, the difference can be difficult to discern.

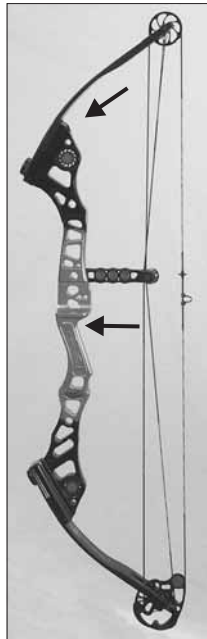
Deflex risers have the limb pockets behind the arrow rest. This is the most forgiving design and will shoot better groups easier. However, it may not reach the distances needed for shooting long-distance target rounds.

Inline risers have the limb pockets in line with the arrow rest. These bows are less forgiving, but have more speed, making it easier to reach the long distances easier. In general, this is a good compromise for a target bow.

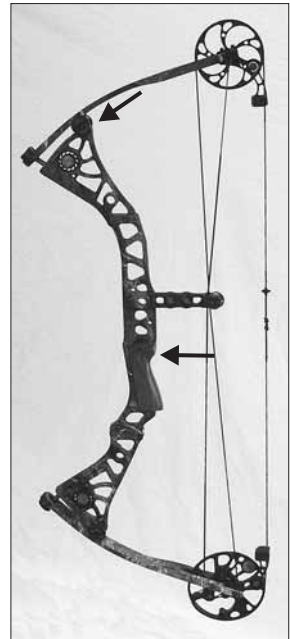
The **Reflex** riser has the limb pockets in front of the arrow rest. These have the most speed (and therefore, get the most distance), but can be more critical. Older reflex bows may be more critical than newer ones.



Deflex bow design



Inline bow design



Reflex bow design

If buying a used bow, check it carefully to be sure it is in good condition and is the proper draw length and draw weight for you. A bow in good condition is also a safe bow to shoot. Check the points mentioned in the next discussions and read the next Chapter (Safety) for more information on judging the condition of used equipment. The Appendix lists recommended draw weights.

Target bows come in many colors; hunting bows are almost always camouflaged.



Checking a carbon arrow for cracks. There will be a grating sound if it is cracked.

light, as you would for aluminum/carbon arrows. Also look for cracks, compression or gouging on the shaft. This is from the arrow striking something in a glancing blow on the shot.

To check for cracks, hold the shaft at both ends and either 1) bend it, then rotate it, or 2) twist it. You will hear crunching or grating if it is cracked.

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 you remove all of it, no matter how small.

Store equipment away from extreme heat or cold. While the metal riser, the accessories, and the arrows can handle temperature extremes fairly well, the limbs can be damaged by extreme heat or cold. This occurs primarily when leaving equipment in a car or a similarly enclosed place.

In the summer, the temperature in a closed passenger compartment of a car can be well over 110°F, particularly in warmer areas. Temperatures that high can soften the glue holding the laminations of the limbs together, allowing them to separate and/or twist.

In areas where winters are cold, routinely keeping the bow in temperatures lower than 25°F is not wise. If the equipment is cold, allow the bow to thoroughly warm up before shooting (at least a half hour).

For long-term storage, lower draw weight of the bow.

Safety when Shooting

Safety when shooting is mostly common sense. With proper technique, your shooting should be safe.

Always draw the bow with the shoulders level, the sight over the target, and the drawing arm moving parallel to the floor/ground. If the only way



At full draw and ready to execute the shot.



Release goes off and the body flows in to the Finish.

When the release goes off, the drawing arm spontaneously moves back along the neck in a single motion and the bow tips forward in the relaxed bow hand. Other than this, nothing moves until the arrow is in the target. Finishing the shot is as important to consistency and producing tight groups as Setting Up the shot and Executing it.

The Overall Shot Sequence

As you learn, pay attention to the elements, focusing on each as you do it, so you become aware of the feel. This helps your body remember how to create the correct position. If you focus on it while learning, later on you will just know whether or not it is right by the feel.

If you stay focused on doing each element the same way each time, you will also develop a mental checklist of all the elements as you go through them. With practice, it will become an instantaneous *knowing* whether or not it is right. At that point, your subconscious is doing the detailed work, as your conscious monitors whether or not it is correct. But that's way off from now.

The following series of pictures summarizes the shot sequence, listing when each element is checked.

Exercise 4: Use a Strap to Learn the Body Position

This exercise simulates the full draw position. The strap teaches the feel of a fixed draw length and how to maintain correct body alignment under load.

For this exercise, it is important to use a mirror so you can watch positioning for the shot while maintaining body position.

Note: Before starting, set the strap length so you can get the bow arm perfectly in line with the shoulders with the index finger anchored under the back of the jawbone. Have the person working with you watch the shoulder line carefully. Getting it right may take several adjustments.

1. **Set your feet.** Stand normally and place your feet in a square stance as if you would be shooting at the mirror. Your left arm will point to the mirror at full draw (right hand shooter).



Set the feet in a square stance.

2. **Set the lower body position.** Hips turned under to flatten the spine.



Set the lower body position.

3. **Set the strap on the bow hand.** Hold the strap with the drawing fingers and pull with enough pressure to set the strap across the bow hand with the knuckles at an angle.



The strap sits across the thumb pad with the knuckles angled.

4. **Come to full draw and anchor.**

With a little pressure on the strap to maintain the position on the bow hand, rotate the bow elbow down, raise the bow arm, and set the bow shoulder as you did in Exercise 2, Part 1. Anchor with the index finger under the jawbone about halfway back.



To anchor, put the large bone of the index finger under the jawbone.

Under pressure of the strap, the relaxed wrist makes the hand point up at a sharp angle.

3. **Execute the release.** Holding the slight draw, roll the thumb across the barrel/ button to make the release go off. Try to keep the tip of the thumb inactive. Make the move as smooth as possible.

When the release goes off, the drawing hand pops back just a little. If you kept your bow hand and wrist relaxed, the bow will fall into the sling as the drawing hand pops back.



With the slight draw, execute the release smoothly by gently rolling the thumb across the barrel/button.

Repeat this until you can keep the fingers set, relax both hands, and can comfortably execute the release.

Exercise 2: Learn Body Position and How to Let Down

During this part of the Lesson, you will practice drawing the bow. It gets you familiar with the feel of the bow and teaches you how to Let Down.

1. **Prepare to shoot.** Put the sling around the bow in your hand and secure it. Stand on the shooting line and position your feet. Relax your knees.
2. **Nock the arrow.** Place an arrow on the nocking point and rest/launcher. The index fletching points either up or down.
3. **Set the release.** Cock and hook the release in the D-Loop.
4. **Set the hands.** With the string under a little tension, position the bow hand on the grip. Then do a preliminary set of the hand on the release. Be sure the thumb is behind or off the button!
5. **Align the body to the target and set the head.** Turn your hips under to flatten the spine. Hold this from now on. Set the head over the shoulders, turned towards the target.



Once the arrow is nocked and the release on the string, set the hands and lower body position.

Note: Exercise 2 helps you differentiate between the shoulder muscles and back muscles, so it engages both sides of the back. From now on, the work will be only on the drawing side of the body. When shooting, the bow shoulder stays set and does not move.

1. Check your draw length on the strap and adjust it if necessary.
2. Come to full draw and anchor, with the hand on the face as you did when shooting in Lesson 2. Make sure the body is in correct position!
3. Move only the drawing shoulder joint/shoulder blade around to the spine to create the same feeling of intense effort you had in Exercise 2, but this time, on the drawing side only.
4. Holding that effort, 'shoot' the strap. Since it does not stretch, properly done, it falls out of the hand in a mild arc.



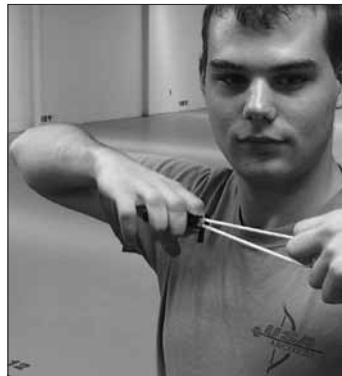
Feel the effort of the draw only along the inside edge of the shoulder blade.

Exercise 5: Learn the Release Action

For this Exercise, use the short loop so you can watch your hand, learning the correct position and how to keep it absolutely still while using the drawing shoulder/shoulder blade to execute the release. For consistent execution, this is absolutely necessary.

Stand in front of a mirror so you can watch your hand.

1. **Set the release on the string.** Hook a couple fingers of the bow hand on the short loop. Cock, then put the Release Hook on the string using pressure from the drawing hand index finger. The other fingers can lay over the Release Handle, but there should be no pressure from them.
2. **Set the fingers, then relax the drawing hand.** Looking in a mirror, hold the string at shoulder height. Set the other fingers on



Cock the release and hook it on the short loop.

4. **Anchor and set the drawing hand on the release.**

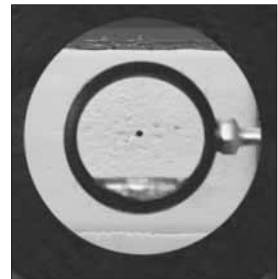
- Lay the large bone of the index finger solidly against the jawbone and along the neck.
- Set the middle and third fingers around the Release Handle. Check the index finger position.
- Relax the wrist and back of the drawing hand.



Set the anchor, then the fingers around the Release Handle, then relax the hand.

5. **Align the peep and the scope and level the bow.** See concentric circles with the bubble of the level centered between the marks. Be sure the scope is in the middle of the mat/bale.

6. **Execute the release and finish the shot.** Holding still, move the drawing shoulder around towards the spine until the release goes off. You do not determine exactly when the release goes off; it just goes. Stay still until the arrow is in the target.



Align the peep and scope, then check the level.



Execute the release by moving the drawing shoulder joint/shoulder blade around towards the spine. Otherwise, be still.



When the release goes off, the drawing hand spontaneously moves back and ends under the ear. The bow moves forward out of the bow hand. The bow arm is still.

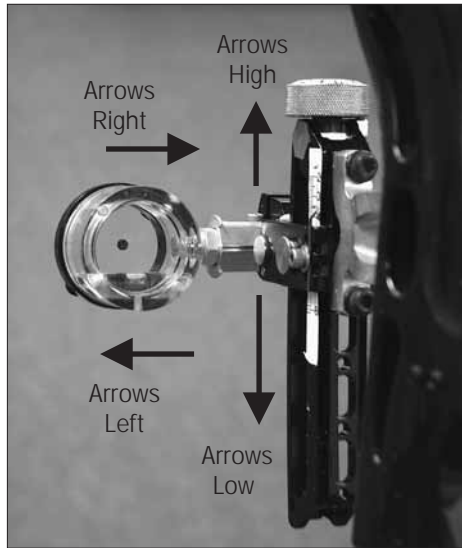
The drawing arm/hand should pop back with the hand ending behind your ear. Your bow arm should pop an inch or so to the left (right hand archer). This is the Finish.

Adjusting the Sight — After some shooting, you may have a good pattern on the target (called a group in archery). If the group is always off-center, adjust the sight to move it.

Exactly how to adjust the sight is different for each type of sight. But every sight has a way to move the sight pin up/down and left/right. This moves where the bow points, and therefore, the group.

If the arrows are high, move the scope up on the sight bar. If they are low, move the scope down. If they are left or right, move the scope left or right, respectively.

In other words, move the scope in the *same direction* the group is from the center. You can also think of it as ‘chase the arrows’ or ‘chase the group’ – move the scope in the same direction.



Off-center groups on a target are moved by adjusting the sight. The direction follows the direction the group is off-center – Up if they are high, Down if they are low, Left if they are left, and Right if they are right. This moves the bow in the opposite direction. *Follow the group with the sight!*

The Lesson

For this Lesson, you will shoot at 10 yards, this time at a paper target attached to the mat/bale. Put either a 16-inch blue and white target or 5-color 40 cm target on the middle of it. This should be a single target, not the multiple spots.

These targets are used for indoor shooting and competition. The maximum distance indoors is 20 yards or 18 meters. Use this target face but start at 10 yards.

1. **Get ready to shoot.** Put on your armguard and sling; have the bow and release, along with 6 arrows. The mat/bale should have a target face on it.



In this Lesson have a paper target on the mat/bale.