

Fitting the Under 26 Archer

Let's face it; men buy most of the bows sold. That's true here in the USA and around the world. Men do most of the bow designing, bow building, bow selling, bow shooting (not to be confused with BULL shooting, although men do most of that too) and bow hunting. Our sport is male dominated, no doubt about it, though programs like NASP offer promise for a better balance in the future.

Until recently this has meant that finding bows for kids and women has been a difficult proposition, at best. This year at the ATA

Show, however, I saw an increase in the number of short-draw bows available. So much so, that I can now say that there are sufficient numbers of manufacturers making bows that fit women and kids and, also, there now seems to be the correct amount of emphasis on building draw-length-adjustable bows that fit shorter people and meet the growing needs of our archery-loving kids.

As I surveyed the ATA Show aisles, I found that almost every bow manufacturer had something to offer the short-draw archer. In fact, I was very impressed with most of what is now available for this group that I define as **U26**; that is, **draw lengths 26 inch and under** according to the Archery Manufacturers Standards. As I understand it, the standard measures the True Draw from nock to grip pressure point and then adds 1-3/4 inch. This longer standard ensures that the bow-buying public purchases arrows that extend well past the arrow rest and avoids buying arrows that are dangerously short and might be drawn off the rest onto the bow hand.

Kids and many women have draw lengths that are less than 26 inches; this seems to be the cutoff for most of the bows designed and sold to the vast majority of male archers. From what I saw at the ATA Show I can tell you that the manufacturers are listening and understanding the needs of this valuable customer group. So, with that in mind I have some tips that will help you, the dealer, get these "U26" folks fit for archery.

DRAW LENGTH: THE TOP PRIORITY

Nothing is more uncomfortable than a pair of shoes that don't fit cor-

rectly. If they're too tight or too loose you can't do a good job at work . . . or play. So getting the proper fit is essential to good performance and that's no less true for shooting archery than it is for your shoes. Only when the bow fits properly do you have your best chance to perform at your highest level.

Fitting the bow to the archer is dependent on knowing how an archer needs to position his or her body at full draw. Too many people in all phases of archery don't understand what this position is and I feel it's my job through teaching and writing to educate them; the better the bow fits the archer the more enjoyment they will get from archery. The concept is simple, *set the body position properly at full draw and then make the bow fit the archer*. Far too often the bow is bought/sold without either the buyer or seller knowing what this full-draw-position is.

FULL DRAW POSITION DEFINED: So when is a person correctly positioned at full draw? How do you know for sure when you're evaluating a customer's form? What are the visual clues to full draw position?

If you understand good shooting form then these questions are not that difficult to answer. We're talking about body position here and that's observable. You can look at someone's, anyone's, body when they claim they are at full draw and know for sure if they are or not. You just have to know the standard model that defines full draw position.

Full Draw Position is that position to which you draw the bowstring in order to place your shoulder and scapula (shoulder blade) in the most effective location for exe-



Visit any archery club and you'll find lots of kids like these three boys from my own Juniata County Sportsmen's Association here in central Pennsylvania. They come in all sizes and grow at different rates throughout the year and that makes bow fitting an ongoing process but, I can assure you, the dads at my club don't mind that at all. What helps are adjustable bows that will fit them over the course of five or six years.



In this picture, one of the young ladies from the JOAD club at Pelkey's Archery in Vermont demonstrated proper full-draw-position with her drawing elbow and fore arm in line with and behind the arrow shaft. In this position she can transfer the holding force from her arm into her back muscles. This will allow her to use back tension properly so her hand and arm will yield a smooth release and a natural follow-through.

cutting back tension.

Well, those are the words but you need to know what it looks like. It looks like the picture above. So when you look at this picture, what do you see? How do you know that this is correct and other positions are not?

What you should notice most about the archer in the picture is her drawing forearm. Where is it? You should see that her **drawing forearm is in direct line with the arrow shaft**. This tells me that her drawing shoulder is positioned so that her right-side back muscles – the rhomboid muscles - can have maximum leverage on her scapula (shoulder blade). In short, she is able to transfer her **holding power into her back muscles** and is able to relax most of her arm muscles, aim steadier and execute the shot more consistently with back tension.

The full-draw front view should show her drawing arm either level with the arrow shaft or her elbow slightly elevated, as in the photo above. Her arm should never be below the shaft, as this would push her scapula too close to her spine and significantly reduce the ability of



From the front, full-draw-position shows how the drawing arm and elbow should be at least as high as the arrow. Many archers like their holding elbow to be slightly higher than the nock so that the back muscle can have a little more leverage during the holding and releasing phase of the shot. The bow arm should be straight so the bones of the arm can resist the draw-force of the bow.

the rhomboids to contribute to the shot process. It's all about leverage in the back muscles. Please also note that her bow arm is extended so the aligned bones can resist the bow's draw-force.

If he or she needs more draw



At the beginning of any of my two-day shooting schools, students have full-draw-positions of all kinds. Here is a young shooter that has a bow that is a little short and won't allow her to get her drawing elbow rotated properly behind the arrow. Once we adjusted the cam modules to yield a little more draw length this young lady was able to establish proper position and begin executing shots with better

length the situation is easier to deal with. Adding a longer D-loop will help temporarily for virtually no cost. Eliminating the removable grip from the handle will help also. Changing draw length modules nets a bigger change as does installing a longer string. In some cases you'll have to install a bigger cam to get more draw length; a smaller wheel will net a shorter draw length.

CONSISTENT RELEASE

We are always trying to attain the most consistent release humanly possible. Getting your drawing forearm directly behind the arrow shaft is a major step toward that goal. It is from this position that your release hand can escape cleanly and directly away from the arrow nock when the release aid activates. This aligned position also promotes equal pressuring between the bow hand and the release hand.

From other positions behind the nock your hand and arm may impart inconsistent pressures and torque to the release and bowstring. This, in turn, will cause each arrow to impact differently in the target. Holding the bow with arm muscles, as in the short-draw position shown at left, will promote plucking the string if you're



If a bow is adjusted too long for an archer then he/she will rotate their drawing elbow too far around behind the arrow. As demonstrated by this young man, in this position they have compressed their back muscles making them useless for back tension. This bow needed to be adjusted to a shorter position so that he could align properly at full draw.

shooting with fingers or pulling to the side (away from your face) if you have a release aid in your hand. This also causes arrows to impact left and/or right of target center and needs to be prevented.

More emphasis needs to be placed on establishing the correct position of the archer's drawing shoulder and shoulder blade. I use the term **"full-draw-position"** in order to help my students build a new mental image of themselves and what body position they need to build at full draw because shooting archery well is all about body position. It's all about maximizing the use of your skeleton and minimizing muscle use; it's about relaxing as much muscle as possible and that happens when the force you need to hold the bow is transferred out of your arms and into your back. If you get all of your customers fit to this standard, everyone wins. Everyone has the best chance to shoot well (and come back to your store for more "stuff").

FITTING KIDS AND WOMEN

Many of the U26 archers you will be fitting have little or no archery skill making the fitting process more difficult. Here's where a little of your own coaching skill comes in handy. You can teach what's contained in

the National Basic and Intermediate Instructor Courses, the archer's "T" position. Begin by having your student archer stand in a "T" with their arms extended horizontally and their shoulders level. Next, have them extend their bow arm toward the target forming a "stop sign" signal, their head, chin level, turned toward the target and the release arm bent only at the elbow so that their release index finger touches the side of their neck. From this position you can adjust their drawing forearm so that it aligns with the imaginary arrow shaft finalizing their full-draw-position.

Now the trick is to get them into this position with a bow and a release aid in their hands. I'm sure you're already ahead of me on this issue because most shops have a lightweight recurve bow or Genesis bow for this purpose so the student-archer can draw to their full-draw-position with freedom and ease.

Here's where that Easton measuring arrow comes in handy. With the measuring arrow in place on the bowstring and your archer correctly at full draw you can read the measurement at the arrow-rest mounting hole in the handle riser to establish the archer's True Draw Length. Be sure to have a D-loop in place and a release aid in their hand if they

will be using those on their new bow; both of these affect the True Draw measurement.

Having this measurement established will enable you to preset their new bow's draw length before you put it in their hand. Once it's in their hand you still have to get them into full-draw-position again with their new equipment. I know that this is not always an easy task but with the U26 archer already familiar with the archer's "T" and a well-defined full-draw-position you have a clear objective to reach – teaching and learning always go better if there is a clear objective. Constantly remind them of this position and help them reach it – be patient, they'll eventually get it.

EQUIPMENT SURVEY

As I mentioned previously, I saw lots of youth and women's bows at the January ATA Show. In fact, I was impressed by their high quality, so I'm going to include a survey of what I found in the following section.

PSE (pse-archery.com)
(520) 594-5102.

Precision shooting Equipment has three really well designed bows for the U26 archers out there, the



Teaching archers how to stand properly begins with the letter "T". Here my archery activity class at Juniata Mennonite School demonstrates how to position their heads over their spines, with their chins and shoulders level.



The next step toward making full-draw-position is to turn your head toward the target keeping the chin level. Here my class shows how to make the "STOP" sign toward the target with the knuckles of the bow hand held at 45 degrees to the ground and the fingers relaxed.



The last step in building full-draw-position is to bend the drawing arm at the elbow so that the release hand comes to the side of the neck. From here it is important to help each student get their drawing forearm in line with the imaginary arrow thus placing the drawing shoulder and shoulder blade in the best position to use back tension.



Use an arrow marked with an inch-scale to determine an archer's True Draw Length between the nock and the grip pivot point. In this example the grip matches a point between the two rest-mounting holes at 27.25 inches. Many but not all bow handles have the rest hole directly above the grip pivot. The Archery Manufacturers standard for draw length on this bow is 29 inches; that is 27.25 inches plus 1.75 inches so that people buy arrows long enough to safely extend beyond the target-side (the back) of the bow.

Hammerhead, the Deer Hunter and the Chaos.

The Hammerhead is designed for bowfishing with the NI single cam system that comes on the top-of-the-line Moneymaker target bow. It's smooth but fast and easy to adjust to draw lengths from 25 inch to 31 inch. With a little coaxing it will shorten to 24 inch. This is a great bow for all-around family fun besides being good for bowfishing.

The Deer Hunter has been around in one form or another for years. It's a simple two-wheel bow with tri-draw wheels so it can be adjusted across 3 inches of draw length. The smallest wheel fits 24, 25 and 26 inch draw lengths with a maximum draw weight of 40

pounds. This bow is a great way to start a youth hunter in archery.

The Chaos offers the most adjustment and is ideal for that growing youth or for the short-draw lady. This twin-cam bow adjusts from 17 inch to 27 inch of draw length and can be ordered in maximum draw weights of 29, 40 or 50 pounds and is only 32 inch from axle to axle. The quick-change draw modules make it easy to adjust to any U26 archer and will fit that growing bowhunter for four or five years.

HOYT (hoyt.com)
(801) 363-2990

Good friend and Hoyt sales representative, Tony Tazza, showed me two of the latest youth models from Hoyt. These bows are designed for U26 women and youths, come in colors and camo and are draw length adjustable.

The 26.5 inch long Trykon Jr. is equipped with the Versa Cam & 1/2 which spans draw lengths from 17 to 25 inches, in 1 inch increments. It is available in draw weights 10-20, 20-30 and 30-40 pounds and has a mass of only 2.7 pounds, making it easy for smaller folks to hold and carry. You can also upgrade it to the Trykon Sport if you wish.

The Trykon Sport is slightly longer than the Jr. at 30 inch axle-to-axle and weighs in at 3.2 pounds. It offers the Cam & 1/2 Plus with adjustable draw lengths from 23 to 28.5 inches and draw weights of 20-30, 30-40 and 40-50 pounds. With

this choice you can match the draw length range to the growing range of your young bowhunter and have a top-grade bow for many years. It will also fit U26 women and match their strength level but still yield exceptional speed and performance.

BEAR ARCHERY
(beararcheryproducts.com)
(812) 487-1250.

Two bows in Bear Archery's top line are built for U26 archers, the Ultralight and the Young Gun. Both look similar to Bear's top bow, the Truth 2.

The Ultra Light is a scaled version of the Truth 2 model featuring a 50 pound maximum draw weight, 29.75 inch axle to axle length and draw lengths that range from 22 to 28 inches. This bow has the feel and speed of its bigger brother but fits shorter archers who want to compete in 3-D archery tournaments.

The Young Gun is a different bow from the Truth series in that it is a twin cam and fits draw lengths as short as 14 inches. Its 14-position draw length module will max out at 27 inches on either the 40 pound or 50 pound limbs and, at under 30 inches axle to axle, it is ideal for the shorter, growing archer.

Bear also has a host of smaller



Three PSE bows will fit the U26 archer. From top to bottom: the Hammerhead single cam is designed for bow fishing and the short draw archer; the Deer Hunter is a long-time standard with a tri-draw wheel and the Chaos twin-cam, adjustable from 17 inch to 27 inch is PSE's best choice for the youth archer.



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compound bows like the Brave 2 and Warrior. On the recurve side it has nine different bows listed on its web site for any size archer in your family.

MARTIN ARCHERY
(martinarchery.com)
(800) 541-8902.

Cheetah, Leopard and Tiger are the three names that stand out in the Martin Archery line when it comes to fitting the U26 folks. The Mystic and Saber are two others that are appropriate for the short-draw archer.

The Cheetah, 30 inches axle to axle, has 300 fps speed and can be adjusted as short as 25 inches. It's outfitted with the M2-Pro single cam with draw modules and offers either the 65 percent or 80 percent let-off and can be ordered at 50 pounds, 60 pounds or 70 pounds maximum draw weight.

The most versatile short-draw bow from Martin is the Leopard. It fits draw lengths from 21 inches to 26 inches with the Mini M-Pro smooth-draw single cam that comes on 40 pound, 50 pound or 60 pound maximum weight limbs. This 29 inch axle to axle bow has a mass of only 3.35 pounds making it easy to carry and hold.

The Mystic (not pictured) fits draw lengths of 24 to 32.5 inches while the Saber fits 25 inch to 30 inches. The Martin Tiger is designed for kids at 10 to 20 pounds weight and draws without adjustment to

Two Hoyt bows caught my eye at the ATA Show, the Trykon Jr. and the Trykon Sport, both shown here. The Trykon Jr. offers the most draw-length adjustment, 17 inch to 25 inches and comes in all the Hoyt colors.



any length from 14 to 24 inches making it a great backyard-fun bow that fits all of your kids.

DIAMOND BY BOWTECH
(diamondarchery.com)
(541) 284-4711.

Bowtech has introduced their line of short-draw bows through their Diamond division by building two models for the U26 archer, the Razor Edge and the Nuclear Ice.

The Nuclear Ice bow is a shortie at only 22.5 inches axle to axle. It offers draw length adjustment from 14 to 24 inches and weights from 10 to 29 pounds. This twin-cam bow has a rotating module system and 70 percent let-off making it just right for growing kids. Note the pink camo limbs in the picture on

68 that should interest young ladies.

The Razor Edge offers draw lengths from 19 inch to 29 inches on a 31 inch axle to axle bow. You can order draw weights of 29 pounds and 60 pounds maximum with the 75 percent let-off twin cam system that uses a pivoting draw module for draw length adjustment.

ALPINE ARCHERY
(alpinearchery.com)
(888) 909-4717.

Meagan Poffenberger was kind enough to show-off Alpine's pink "Girl's Best Friend", the new Sienna. This bow is just for the ladies (unless, of course, you just like pink). It



Bear has two really good bows that fit short-draw youth and ladies, the Ultra Light and the Young Gun. The Young Gun fits draw lengths from 14 to 27 inches making it a great choice for that growing youth archer and learning bowhunter.



Think Africa when you look at the Martin bowline. They have the Cheetah, Leopard and Tiger for U26 ladies and youth. The Leopard, in the middle, offers draw lengths from 21 to 26 inches and is only 29 inches axle to axle.

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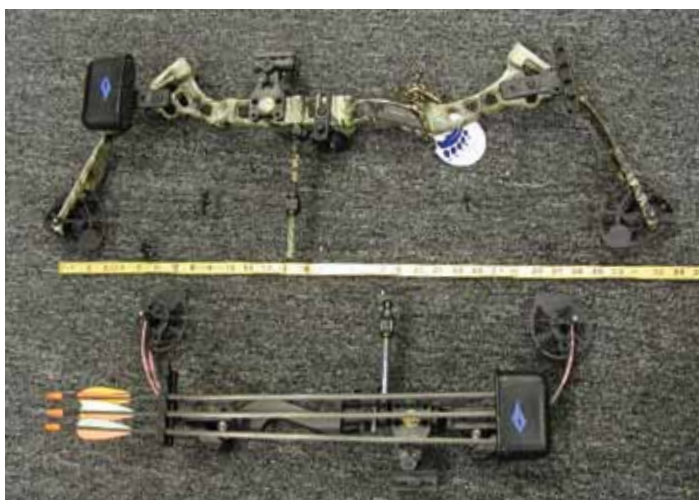
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comes with the Mini Velocity Hybrid cam that produces 295 fps at 26 inches and 60 pounds and is adjustable from 24 to 27 inches in draw length on 40 pound, 50 pound or 60 pound limbs. The 75 percent let-off bow is easy to hold at 30 inches axle to axle and 3.9 pounds in mass. (Hey young guys, it also comes in black if pink doesn't match your nail polish.) I really like this bow; it's well made, well balanced, fast and easy to adjust just like its single cam mate, the Alpine Eclipse.

My friends, Les and Gail Wynne from Waynesville, NC, have been selling the Alpine Micro for some time now and feel it's one of the best for the young kids they see in their shop, Right On Target Family Archery. I bought one from them several years ago for a young boy that I know. The Micro fits the 21 to 28 inch draw length youth or lady, adjusts using a rotating module on the Stalker 2 single cam. Forty pound or 50 pound draw weight limbs are available on this 32 inch axle to axle camo bow that has a mass of 3.0 pounds.

DARTON ARCHERY
(dartonarchery.com)
(800) 356-6522.

The Darton AS100 is designed to fit draw lengths from 24 inch to 29 inch on a 27.75 inch axle to axle frame. It is good for kids and women with its 40, 50, 60 or 70 pound limbs



The Diamond you can buy your lady archer this year can be either the Nuclear Ice that adjusts form 14 to 24 inches or the Razor Edge that adjusts from 19 to 29 inches. Both bows are great choices for the youth archer as well.

and 2 & 1/2 cam technology that utilizes interchangeable draw length modules. The AS50 and AS25 bows offer draw lengths from 25 to 30 inches on slightly longer 31 inch and 34 inch lengths.

For the younger set, Darton offers their Action Series Ranger bows: the Ranger I, Ranger II and the camo finished Ranger III. These 32 inch bows offer 15 to 29 pounds, 15 to 45 pounds and 15 to 45 pounds respectively while fitting draw lengths of 17-25 inches, 17- 28 inches and 17-28 inches; a great lineup for the growing youth archer.

MISSION BOWS BY MATHEWS
(missionarchery.com)
(608) 269-2728.

The 2CPW modularcam is the new addition to the Mission Bow line and is designed to reach the entire U26 archer group. The Mission Menace is equipped with this new twin cam system that is fitted with a rotating module covering draw lengths from



Meagan at Alpine holds her favorite pink Sierra and the Micro. Both bows are extremely well made with the Sierra adjusting from 24 to 27 inches of draw length and the Micro from 21 to 28 inches. Ladies, you'll look great and shoot well with this little pink number!

17 inch to 30 inches with draw weights ranging from 16 to 52 pounds. This 31 inch axle to axle bow has 70 percent let-off and has a mass of 2.92 pounds making it a good match for youths and ladies.

The UX2 model is a little bit bigger bow at 33 inches axle to axle and offers more draw weight, 30 to 70



Darton Archery offers (left to right) the Ranger I, Ranger II and Ranger III. The cam on the Ranger I provides a long valley that lets it be shot from 17 to 25 inches, while modules are used on the other two models to provide specific draw lengths



This Pink Side-Kick has the same features as the original, but comes in a light pink camo. Parker President Bob Errett suggested bringing out a pink version of the company's top selling bow to a somewhat skeptical staff and as it turned out sales have been extremely strong since it came on the market last fall. ArrowTrade photographed Debbie Gervasio with the bow.

pounds, for the youth or lady hunter. It is also a little heavier, 3.95 pounds, and faster at an IBO 308 fps with its 70 percent let-off. This bow has a fully machined riser, comes in black or camo, has perimeter weighted twin cams and adjusts from 22 to 30 inches of draw length, making it a good choice for hunting.

PARKER COMPOUND BOWS
(parkerbows.com)
(540) 337-5426.

Two bows from Parker offer wide adjustability for the U26 archers, the

Side Kick and the Buck Shot.

The Side Kick XP adjusts across ten inches of draw length from 18 to 28 inches with draw weights of 29, 40 and 50 pound maximum. This is a 31 inch axle to axle bow with 80 percent let-off and mass weight of 3.2 pounds. The twin cam system is draw adjusted without a press using a rotating module on each cam.

Weighing in at 2.7 pounds and measuring 32 inches axle to axle is the Buck Shot by Parker. The draw weights are the same as the Side Kick and this 75 percent let-off bow is also draw length adjustable with a rotating module. It comes to market at a very friendly price.

SAFETY ISSUES

Fitting youth and lady archers has some special safety considerations. Many of the youth archers you outfit with bows do not yet have the arm strength to maintain proper full-draw-position and must, therefore, be protected with an armguard. Even with good arm strength some have a bow arm elbow that hyper-extends beyond straight thus placing the elbow in front of the bowstring. Think safety first and cover these arms with armguards and then help them learn to hold the arm straight.

Finger tabs are just as important as armguards if your U26 archer wants to shoot fingers-style. Some find it clumsy to use at first but adjust quickly.

You should have a chest protector available for the ladies. Many of your female beginners won't have good skills at standing in proper

position and will need the protection afforded by a chest protector. If they intend to continue in archery you may want to make them aware that sports bras are available and may even do a better job than the protector.

Growing! The kids just keep doing it! And you have to be aware of their growth and every four months decide if their bow needs adjusting. Remember that they don't grow at a consistent and continuous rate, they grow in spurts so keep a close eye on the youth archers that come to your shop and suggest draw length adjustments as needed.

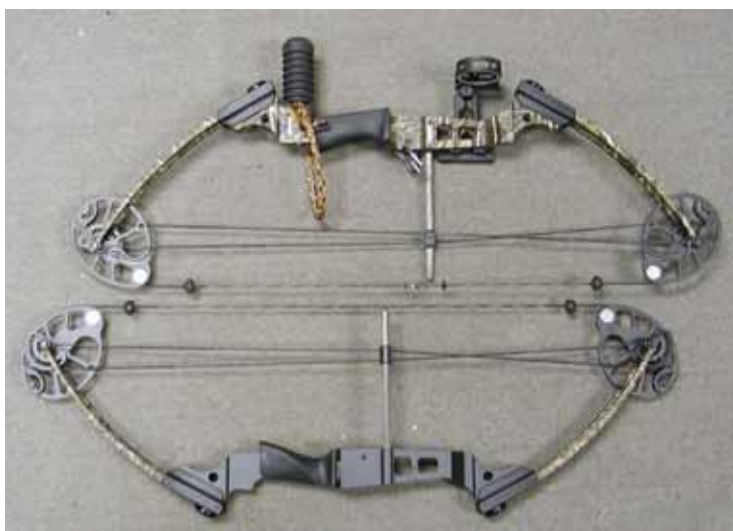
CONCLUSION

The kids and women that come into your shop offer a great opportunity for your business but at the same time they pose some big challenges. Learning how to cope with these challenges is essential if you want their business when they are buying their own bows.

The biggest challenge with the new archer is, I think, draw length fitting. Getting it right at the beginning and then keeping it right as our youth archers grow is difficult at best. I know the basics of this article will help with both of those issues and I wish you luck in doing so. After all, the future of the sport of archery and the archery business depends on our mutual success.

Keep Well, Shoot Straight.
Larry Wise

EDITOR'S NOTE: Larry's books are available from Larry Wise Archery, Rural Route #3, Box 678, Mifflintown, PA 17059 for \$11.95 + \$1.50 S & H. Titles available are "Tuning Your Compound Bow", "Tuning and Silencing Your Bowhunting System", "Tuning and Shooting Your 3-D Bow" and "Bow and Arrow: A Complete Guide". Larry is also available to conduct one and two day CoreArchery Academies on shooting form. To contact him by email, use larrywise3x19@embarq-mail.com. The phone number for Larry Wise Archery is (717) 436-9168.



The mission line of bows from Mathews introduced the new Menace bow for 2009. This 31 inch axle to axle bow is adjustable from 17 to 30 inches in draw length and 16 to 52 pounds of draw weight. Thanks to Mission sales rep Clint Palm for the picture.



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