

**Compound Bow
Owner's Manual**

 **Hoyt**USA®
GET SERIOUS



INTRODUCTION

Welcome to the Hoyt USA family!

As a member of an elite team, you will be pleased to know that you have purchased the finest crafted, most dependable bow on the market. Only the finest components go into every Hoyt USA bow along with over 70 years of experience in bow technology and manufacturing. With some basic maintenance your new bow should provide you with years of pleasure and dependable service.



**543 North Neil Armstrong Road
Salt Lake City, Utah 84116-2887
(801) 363-2990 Phone
(801) 537-1470 Fax
www.hoytusa.com**

BOW OWNER'S PERSONAL RECORD

Fill in the following Personal Bow Record for your later reference.

Bow Serial Number _____

Hoyt USA Bow Model _____

Purchased From _____

Purchase Date _____

Draw Length _____ “ Draw Weight _____ #

Bowstring Length _____ “ Cables Length _____ “

Control Cable Length _____ “

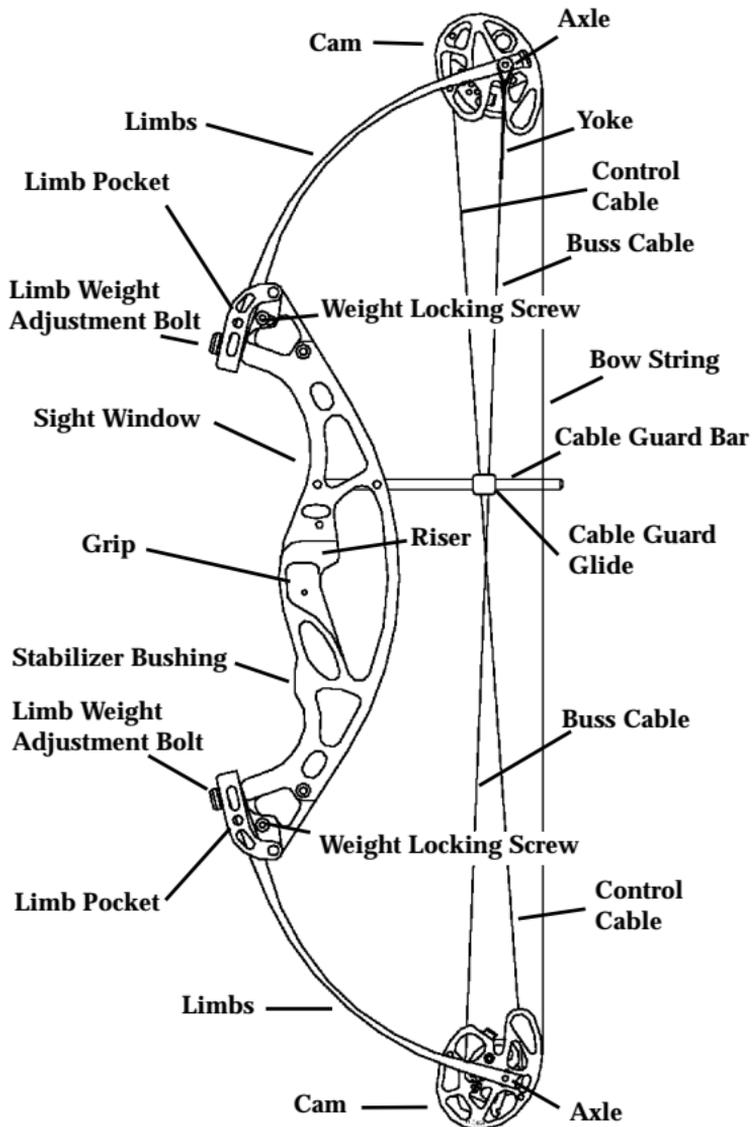
Important Note:

Save your sales receipt. That receipt is your proof of date-of-purchase. **Proof of date-of-purchase will be required should your bow ever need warranty service.** The following space has been reserved for you to staple or tape your sales receipt for safe and convenient keeping.

IMPORTANT!

Staple or tape your sales receipt
here for safekeeping.

COMPOUND BOW TERMINOLOGY



WARNING!
YOU'RE RESPONSIBLE FOR ARCHERY SAFETY

Please read the following safety information. Disregarding these rules may cause serious injury to yourself or property.

1. NEVER "DRY FIRE" YOUR BOW. Dry fire means to draw and release the bowstring without an arrow. Firing a bow without an arrow to absorb the energy can cause severe damage to your bow and possible injury to the shooter or others nearby. Let-down the bow slowly and carefully from any drawn position - be prepared for a possible violent letdown.

2. NEVER EXPOSE YOUR BOW TO EXTREME HEAT OR PROLONGED EXTREME DAMP. Excessive heat, such as that experienced on a sunny day inside a closed vehicle, could cause limb failure. Prolonged storage in a hot dry attic or damp basement could also be damaging. Store the bow properly when it is not in use.

3. CAREFULLY INSPECT YOUR BOW BEFORE EACH USE. Carefully note the condition of the bowstring, limbs and riser before you shoot. Frayed bowstrings should be replaced. Damaged or suspect limbs should be reported to your local dealer for inspection or replacement.

4. BE SURE OF YOUR BACKSTOP. Make sure that the backstop you use is large enough to catch a stray arrow and that it is thick enough that the arrow cannot completely penetrate it. Make sure that it is positioned in a safe direction away from dwellings and other people.

5. BE SURE OF YOUR TARGET. Make sure that there are no persons, livestock, buildings or other objects behind or near your target. Be absolutely sure of your target in low light conditions.

6. INSPECT ALL ARROWS. Before shooting, inspect your arrows for defects. Discard cracked or dented shafts. Replace damaged or loose fletching and nocks.

7. ALWAYS BE SAFE. Never shoot straight up. Be careful around strings and cables when using broadheads. Cutting strings and cables can cause serious damage to your bow and possible injury to you or others. Do not draw the bow beyond its maximum draw length. Never point or aim a drawn bow at another person. Children **must** be supervised by an adult.

8. READ AND HEED ALL WARNINGS. Hoyt USA cannot be held responsible for injuries suffered or caused by misuse, unsafe or improper arrow and bow combinations. Hoyt USA cannot be held responsible for injuries sustained when using an altered or modified Hoyt USA bow.

WARNING

**This bow is a deadly weapon.
Always abide by all safety advisements.
Children must be supervised by an adult.**

COMPOUND BOW MAINTENANCE

Your bow is a mechanical device and as such, is subject to wear and need of periodic inspection, adjustment and service. Hoyt USA recommends that you take your bow to a Hoyt authorized pro shop at least once a year for a yearly professional maintenance and inspection. Areas to be inspected are axles, spacers, lubrication of axle bushings (Hoyt Cam & 1/2 bows do not require axle bushing lubrication), e-clips, strings, cables, limbs and riser.

The following information provides helpful instruction on the proper care and maintenance of your new Hoyt bow. Keep this manual as a handy guide for future reference.

STRINGS AND CABLES

Apply a light coat of bowstring wax to your bow's cables and string on a regular basis. Hoyt USA suggests once every two weeks during peak use. Use a high quality bowstring wax available at your local Hoyt Pro Shop. This will keep your bow's strings and cables in good condition. To assure best results replace D-75 string and cables when wear is evident or every two years under normal use conditions.

Insist that Hoyt USA string and cables be used on your bow. Beware of lesser quality string and cables as they may alter the performance of your bow or cause damage to it.

ECCENTRIC LUBRICATION

For conventional bearings or bushings, a light spot lubrication of the axles where they pass through the eccentric should be done on a regular basis (1,500 - 2,000 shots). In adverse hunting conditions where dirt, dust or moisture are encountered, lubrication may be done on a daily basis. Hoyt USA recommends you use a silicone or Teflon based lubrication or any other quality grease available at your local Hoyt USA Pro Shop. It is not recommended that you use "Penetrating Oils" such as WD-40, EZ-#7, Fast Break, etc.

Note: Cam & 1/2 bows feature sealed ball bearings and should not be lubricated. If your cams do not turn freely, it may be time to replace the bearings.

BOW PRESS USE

Never allow your bow to be put into a bow press unless it is operated by a knowledgeable bow technician. Hoyt USA recommends that all necessary adjustments requiring the use of a bow press be done by an authorized Hoyt Pro Shop.

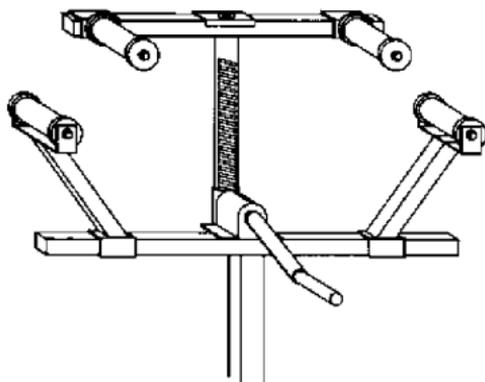


fig 1 (An Example of a Double Pull Bow Press)

Always use a double bow press like that shown in figure 1 when working on your bow.

Never use a single pull bow press. (See fig 2)

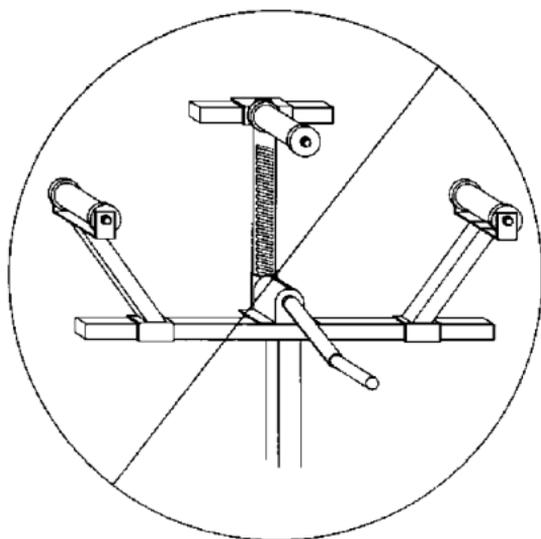


fig 2 (An Example of a Single Pull Bow Press)

Before putting your bow in a bow press, loosen both the top and bottom weight adjustment bolts 5 to 7 turns from maximum weight (when limb bolts are fastened all the way down). When putting your bow in the press, **never put pressure on the riser!** Always position the rollers at the base of the limbs (where the limbs enter the limb pockets). (See fig 3)

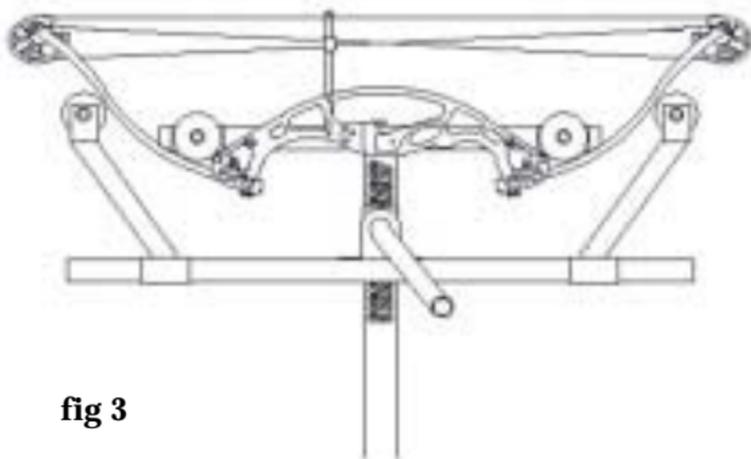


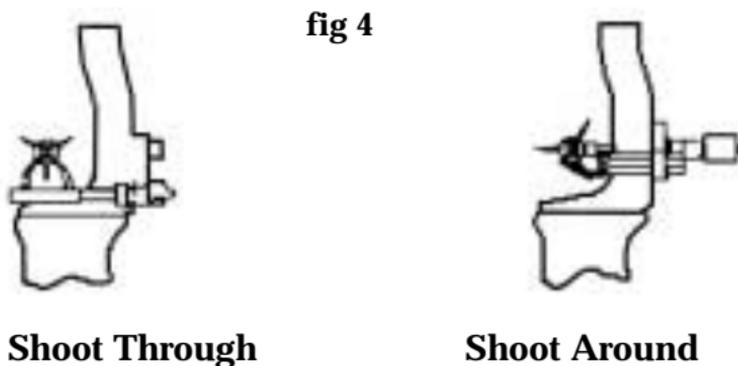
fig 3

COMPOUND BOW SETUP

REST SELECTION

There are two basic types of arrow rests “Shoot Through” and “Shoot Around” (See fig 4) Shoot through rests are designed for release shooters as arrows shot using a release bend vertically.

Shoot around rests are designed for finger shooters as arrows shot by fingers bend horizontally. Hoyt USA recommends that you seek the advice of a qualified Pro Shop for the proper rest selection for your style of shooting.



NOCK SET INSTALLATION

A nock point is a reference on the string that marks the exact location for you to nock your arrow. The arrow's nock is positioned under the nock set. To install the nock set at the proper position begin by slipping the nock set on the string. Then, using your rest as a reference, position the nock set just above level. A finger shooter should initially position the nock set at approximately 3/8" above level. The release shooter should position the nock set at a 90 degree angle with the string and adjust height as needed. (See fig 5) Once the nock set is at the desired location use a special set of nocking pli-

ers to crimp the nock set into place. **NEVER** shoot a bow without a nock set or with a nock set that has not been properly crimped. For proper installation Hoyt USA recommends that this be done by a qualified Pro Shop.

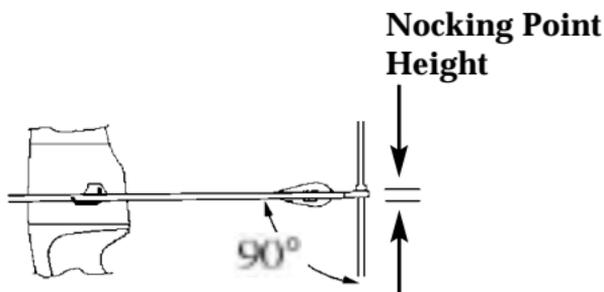


fig 5

CABLE GUARD INSTALLATION

All aluminum Hoyt USA bows are designed with a built in cable guard bar attachment. Before mounting the cable guard bar, you must remove the rubberbands used only for shipping purposes. To insert the cable guard bar, simply slide the bar through the two mounting holes on the riser making sure that the bar is pushed completely through and flush with the end of the front

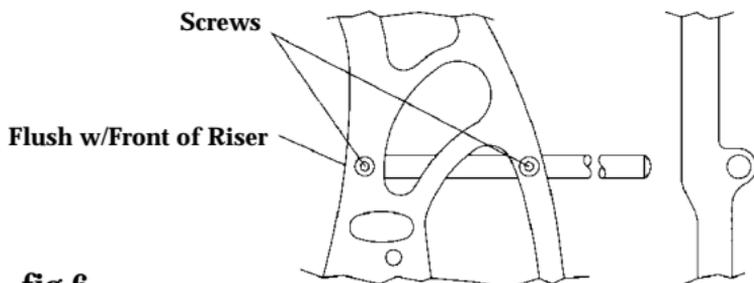


fig 6

mounting hole. After the bar has been inserted fasten with the 1/4-20 x 1/2" set screws provided. (See fig 6)

Hoyt USA's magnesium bows are designed with a high mount style cable guard bar that is mounted directly to the side of the riser by two 10-24 screws. (See fig 7) Prior to mounting the cable guard bar, you must remove the rubberbands used only for shipping purposes.

Warning! On some shorter axle to axle models, adjustable cable guard bars can be off-set too much causing the cable to track off the cam. This can

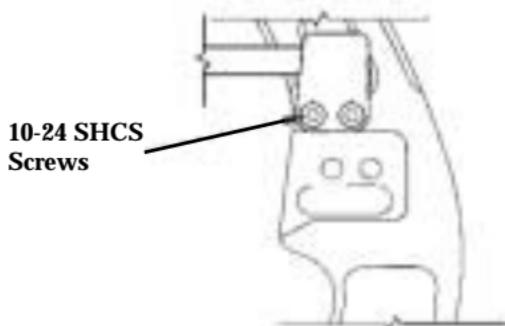


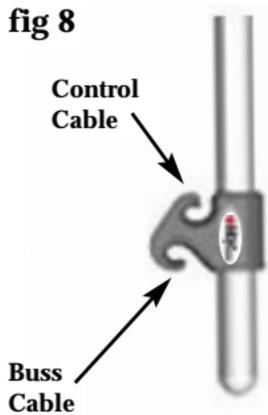
fig 7

cause damage to the bow or personal injury. To prevent this from happening, NEVER SET THE BAR AT THE THREE O' CLOCK POSITION.

CABLE GUARD GLIDE INSTALLATION

To prevent your bow's cables from rubbing against each other, Hoyt USA uses a specially designed cable glide that has off-set cable slots.

To correctly install the glide on all Hoyt bows, **fig 8**



first place the glide on the cable guard bar (See fig 8). Next, push the control cable into the shorter front slot. Then, push the buss cable into the longer rear slot. **CAUTION: Do not pull bow back without proper installation of cable guard bar and glide.**

TILLER ADJUSTMENT

Tiller is the difference in distance between the upper limb to the string and lower limb to the string measured from the base of the limbs (where the limb and riser meet) at a 90 degree angle to the string. (See fig 9)

The main function of tiller is to allow the archer to more easily and comfortably aim during the draw and release of the shot. Most bows will shoot best near even tiller which means the distance from the string to the limb is the same on top and bottom. Tiller adjustments are made by adjusting either limb weight adjustment bolt. (See draw weight adjustment section pg. 15). Example: If you have too much tiller on the bottom limb, decrease the weight on the top limb or increase

the weight on the bottom. Hoyt USA recommends that you initially set tiller equal top and bottom.



fig. 9

CENTERSHOT

Centershot is the alignment of the arrow in the power path of the string. This is accomplished by moving the arrow rest left or right. Release shooters should line the arrow up with or just slightly outside of the power path of the string. (See fig 10) Finger shooters should position the arrow so that the tip is just to the outside of the power path of the string. (See fig 10)

Centershot is critical to how accurate a bow will perform. These are initial centershot settings, for proper alignment Hoyt USA recommends this be done by a qualified Pro Shop.

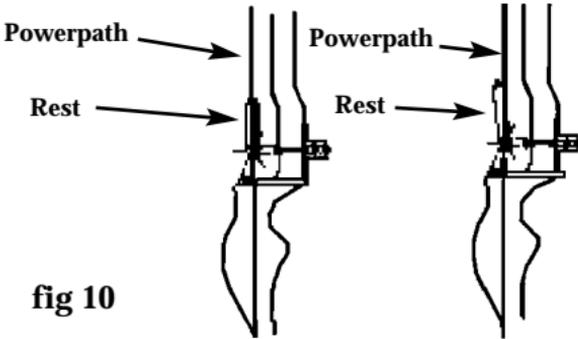


fig 10

Release Setting

Fingers Setting

FLETCH CLEARANCE

Fletch clearance is the ability of your vanes or fletchings to pass cleanly by or through your arrow rest without impacting the rest so severely that the arrow's flight path is disrupted. It is necessary that you have adequate vane clearance to achieve proper arrow flight. (See fig 11)

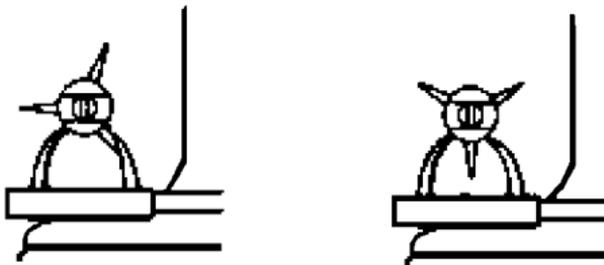


fig. 11

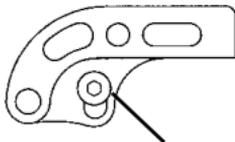
Incorrect

Correct

COMPOUND BOW ADJUSTMENT

DRAW WEIGHT ADJUSTMENT

Weight adjustments can easily be made by turning the weight adjustment bolt clockwise to increase weight or counter clockwise to decrease weight. Note: Always



Pocket Locking Screw

fig 12

turn the top and bottom adjustment bolts in equal amounts. Some Hoyt USA model bows are equipped with a Dual Locking Pocket System. Before draw weight adjustments are made on these models you must first

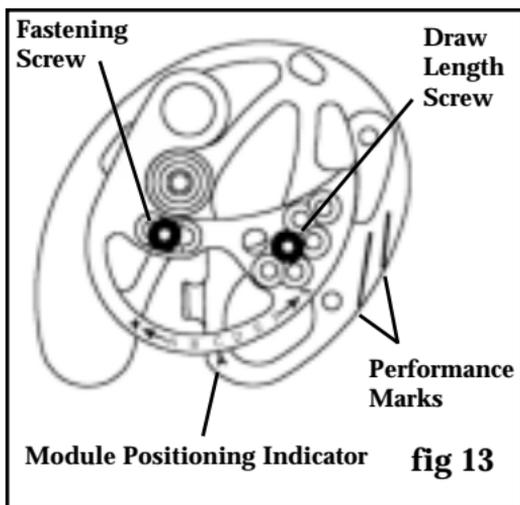
loosen the Pocket Locking screws located on both sides of the pocket. (See fig 12) When adjustments are completed, re-tighten the Pocket Locking screws.

DRAW LENGTH ADJUSTMENT (INNER-CAM ADJUSTABLE MODULES)

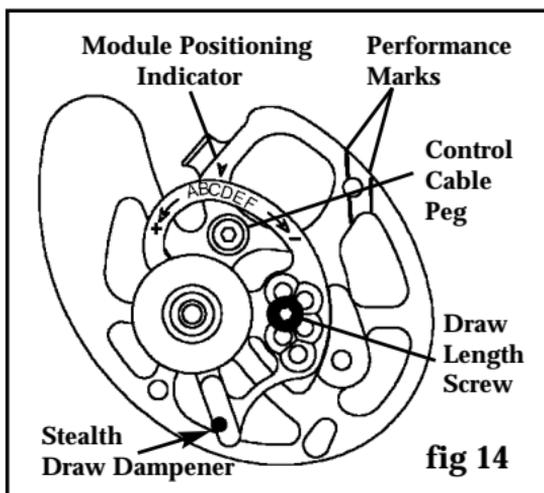
Many Hoyt bows utilize the patented inner-cam adjustable module for draw length adjustment. The inner-cam can generally be adjusted without the aid of a bow press.

CAM & 1/2 DRAW LENGTH ADJUSTMENT

TOP CAM: To adjust the draw length on Hoyt's patented Cam & 1/2 (inner-cam) model bows, use a standard allen key to loosen the fastening screw and to remove the draw length screw. (see fig 13) Rotating the inner-cam in the (+) direction will lengthen the draw. Rotating the inner-cam in the (-) direction will shorten the draw. Each lettered position will provide



approximately 1/2" longer/shorter draw than the previous setting. Once the inner-cam is in the desired location, reinstall and tighten the draw length screw first and then the fastening screw.



BOTTOM CAM: Remove the draw length screw, rotate module to the same lettered position as the top module, and replace. (see fig 14). **Note:** You must make the same adjustments to

the top and the bottom inner-cams or the bow cannot be properly tuned.

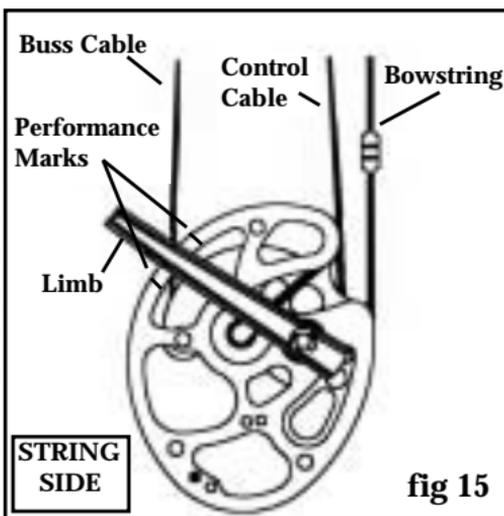
WARNING: Never remove the stainless steel control cable peg unless the string is relaxed in a bow press.

OPTIMIZING CAM & 1/2 PERFORMANCE

In order to verify optimum performance of your Cam & 1/2 bow you should examine the cam's built-in performance marks. When viewing the module side of the top cam, the control cable should lie somewhere between the performance marks (see fig13). When viewing the module side of the bottom cam, the buss cable should lie somewhere between the performance marks as shown. (see fig 14) It is not necessary to have the cable exactly centered between the marks. Draw length adjustment will not affect the performance marks. Your new bow was shipped from our factory in the optimum position. If either of your cables lie outside the performance marks we recommend you take your bow to your nearest Hoyt dealer for adjustments.

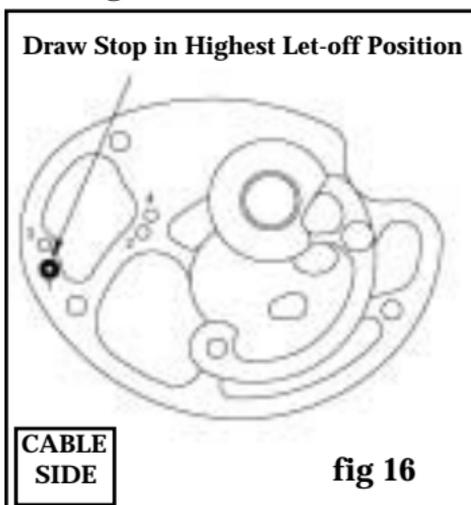
OPTIMIZING SPIRAL CAM & 1/2 PERFORMANCE

To assure optimum performance of bows featuring Hoyt's Spiral Cam & 1/2, you should examine the cams' built-in performance marks. On both the top and bottom cam, the limb should lie somewhere in



between the marks. (see fig 15) It is not necessary to have the limb exactly centered between the marks. Your new bow was shipped from our factory in the optimum position. If your limb lies outside the performance marks we recommend you take your bow to your Hoyt Pro Shop for adjustments.

The let-off of your Spiral Cam & 1/2 bow can be adjusted using a standard allen key. The AMO let-off values of the Spiral Cam & 1/2 vary from 55% to 65%. You will notice the four draw-stop holes on the bottom cam numbered 1 through 4. (see fig 16) For 55% let-off, the draw-stop peg

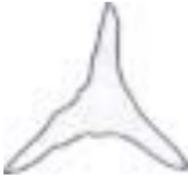


should be placed in hole #4. Simply remove the draw-stop peg from its original position, place it in the desired position, and tighten. Each Hoyt Spiral Cam & 1/2 bow was shipped in the 65% let-off (draw stop peg position #1).

Note: changing the draw-stop position to manipulate let-off will alter draw length by approximately 1/8" for each draw-stop hole; draw length will be shortened when changing to a lower let-off position and lengthened in higher let-off positions.

PAPER TUNING

To paper tune your bow have on hand one fletched arrow, a sheet of paper, a picture frame type rack approximately 24" x 24", and a target mat. Attach the paper to the frame and position the frame at about shoulder height. Place the target mat about 6 feet directly behind the paper to stop the arrows. Standing 4 to 6 feet from the frame, shoot a fletched arrow through the center of the paper with the arrow at shoulder height (parallel to the floor). Observe how the paper is torn.



This tear indicates good arrow flight. The point and the fletching have entered the same hole.



This tear indicates a low nocking point. To correct, raise your nocking point 1/16" at a time and repeat the procedure until the low vertical tear is eliminated.



This tear indicates a high nocking point, clearance problem, or a very weak arrow if you are using a release aid. To correct, lower the nocking point 1/16" at a time until the high tear is eliminated. If your nocking point is below 90 degrees and the high tear is still present, reset the nocking point 1/8 - 3/16" above 90 degrees and reduce spring tension in the rest until the tear improves.



This tear indicates a stiff arrow reaction for right-handed archers using finger release. Left-handed archers will have an opposite pattern. It generally indicates that the arrow rest position is too far to the right or that there is possible vane contact on the inside launcher rest.



This tear indicates a weak arrow reaction or clearance problem for right-handed finger release archers. Left-handed finger release archers will have the opposite pattern. For right-handed compound archers using mechanical releases, the left tear usually indicates the arrow rest is too far to the left, a weak arrow reaction and/or clearance problem.

TUNING WITH BROADHEADS

Most archers discover that they must make slight tuning adjustments when switching from practice points to broadheads (even at the same weight). Broadheads create a dramatic aerodynamic change in arrow flight. For this reason, slight adjustments may need to be made in nocking point height, rest position or bow weight to achieve desired broadhead flight. Always test shoot broadheads before hunting. Even expandable broadheads may require different sight settings than field points.

Hoyt USA recommends working closely with your local Pro Shop when tuning your bow to ensure best results.

HOYT USA COMPOUND BOW WARRANTY

All Hoyt USA compound bows are warranted against defects in materials or workmanship to **the original owner** on all risers, limbs, limb pockets, and eccentrics for the life of the product.

ACCESSORIES

All Hoyt USA sights (excluding sight pins), arrow rests, and bow quivers (excluding hood foam and arrow gripper) are warranted 100% for the life of the product to the original owner. Hoyt USA must perform warranty work.

You must have the following items in order to obtain warranty work:

1. A dated proof of purchase (sales receipt).
2. Products must be purchased through a Hoyt USA authorized dealer (no exceptions!)
3. All compound bows must have a serial number.

Hoyt USA, at its discretion, voids all warranty claims either expressed or implied including but not limited to evidence of abuse, modification to original design, use of attachments or accessories that cause excessive stress.

Hoyt USA reserves the right to make substitutions on warranty coverage at Hoyt USA's discretion for any reason. **Warranty is subject to available parts.**

OBTAINING WARRANTY SERVICE

To obtain warranty service, you should return to the Pro Shop where you purchased your Hoyt USA bow. The dealer can help to determine if Hoyt USA factory service

is required or if the repair can be completed by the Pro Shop. If the bow must be returned to the factory, the bow owner is responsible for the return freight to Hoyt USA. Hoyt USA, in turn, will pay for the same return freight of the repaired product.

Before any bow is returned a **Return Authorization** number must be obtained through an authorized Hoyt USA Pro Shop. Bows returned to the factory without a Return Authorization number will be sent back. Do not send accessories with bow unless otherwise instructed to.

Write the RA number on the outside of the shipping box and send the Hoyt USA bow requiring factory service to:

Hoyt USA
543 N. Neil Armstrong Road
Salt Lake City, UT 84116

There are no other warranties expressed or implied that extend beyond those written here. No agent, employee or representative of Hoyt USA or its dealers has the authority to bind Hoyt USA to any agreement not here-in stated. Buyer agrees that the sole and exclusive remedies for breach on any warranty concerning Hoyt USA bows shall be repair or replacement of defective parts. Hoyt USA shall not be liable for injury or property other than the bows themselves. Hoyt USA reserves the right to replace defective parts according to availability with compatible replacement parts.



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