

RECURVE OWNER'S MANUAL

 **HOYTUSA®**

INNOVATION SINCE 1931



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Congratulations! You have just purchased the world's finest recurve bow. Hoyt's recurve bows have been designed for the serious recurve archer. Hoyt bows have brought home more Olympic and World medals than any other bow in the world.

With your new Hoyt bow you get the support of a company which has been making bows for over 70 years. From well crafted limbs to precise risers, we are sure you will be happy with your new purchase. In addition, Hoyt USA backs you up with the most comprehensive warranty program in the industry.

The following information provides helpful instruction on the various parts and components of your new bow as well as a helpful guide to getting your bow set-up and ready to shoot.



543 N. Neil Armstrong Road
Salt Lake City, UT 84116
(801) 363-2990 phone
(801) 537-1470 Fax
www.hoytusa.com

BOW OWNER'S PERSONAL RECORD

Hoyt Bow Model_____

Limb Type_____

Length _____ Weight _____ #

Purchased From_____

Purchase Date_____

WARNING: This bow is a deadly weapon. Always abide by all safety advisements. Children should be supervised by an adult.

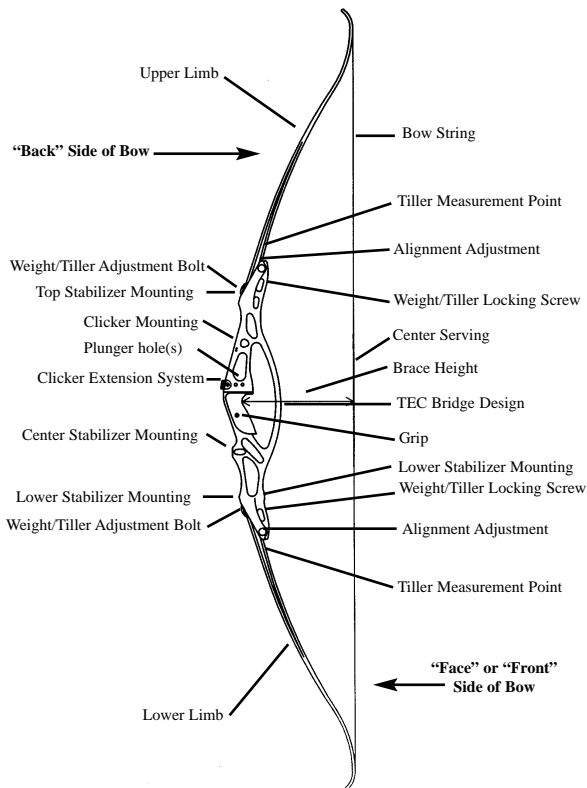
Important Note: Save your sales receipt. The receipt is your proof of date-of-purchase. Proof of date-of-purchase is required should your bow ever need warranty service.

The following space is reserved for your sales receipt. Please attach it for safe keeping.

IMPORTANT!
Staple or tape your
sales receipt here
for safekeeping.

RECURVE BOW TERMINOLOGY

Understanding recurve bow terminology and measuring techniques is very important in setting up your new bow. Please familiarize yourself with the following terms and measurements. Refer to them as needed. (Bow shown from sight window side of bow.)



Bow Length

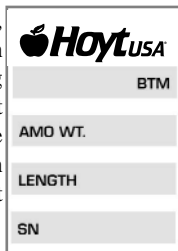
Bow length is the distance from the tip of the top limb to the tip of the bottom limb of an unstrung bow with the tape following the limbs. Depending on which riser length and limb length you choose, you can tailor your bow to your specific needs. Refer to the following chart to determine your bow length.

| <u>Riser Length</u> | <u>Long Limbs</u> | <u>Medium Limbs</u> | <u>Short Limbs</u> |
|---------------------|-------------------|---------------------|--------------------|
| Short Riser (23") | 68" | 66" | 64" |
| Long Riser (25") | 70" | 68" | 66" |

Note: Short riser will result in an approximate 2 lb. increase over the marked limb weight.

Draw Weight

To determine the weight on your Hoyt bow, refer to the limb specifications located on each limb. Example: a 25" riser with a long limb produces a 70" bow with a draw weight of 34 pounds at a 28" draw length. If these limbs are used on a 23" riser, the combination would produce a 68" bow with a draw weight of 36 pounds at a 28" draw length.



The diagram shows a vertical section of a bow limb. At the top is the Hoyt USA logo. Below it are four rectangular boxes, each with a label: 'BTM' (Bottom), 'AMO WT.' (Arrow Mounting Weight), 'LENGTH', and 'SN' (Serial Number).

The weight marked on the limb is measured at a 28" standard A.T.A. (Archery Trade Association) draw length. A.T.A. draw length is measured at 26 1/4" to the throat of the bow grip plus 1 3/4". This produces an industry standard by which recurve bows are measured.

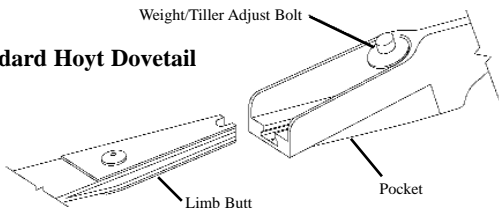
Note: Your draw weight will change due to draw length. Add or subtract approximately two pounds for each inch your draw length is over or under the 28" standard.

BOW ASSEMBLY

Installing Limbs

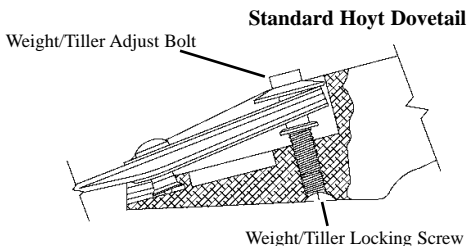
Install one limb in each pocket (the limb noting specifications is the bottom limb). Carefully insert the limb bushing into the dovetail groove in the pocket. Push the limb forward until the detent button engages. You should hear a “click” indicating the limb is fully seated.

Standard Hoyt Dovetail



Adjusting Weight and Tiller

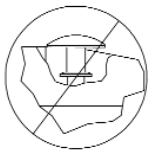
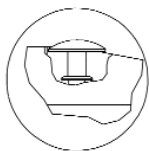
Hoyt bows are equipped with a reliable limb weight/tiller adjustment system. The limb weight/tiller adjustment bolt is used to adjust bow weight and limb balance (tiller).



Weight

The weight on most Hoyt bows is adjustable in a range of approximately plus or minus 5%.

Adjust weight by loosening the weight/tiller locking screw. Do this by using one of the two allen wrenches provided to hold the weight/tiller adjustment bolt in place, and the other wrench to loosen the weight/tiller locking screw. Once the locking screw is loose and the bow is unstrung, you can adjust the weight/tiller adjustment bolt to the desired weight. Turning the weight/tiller

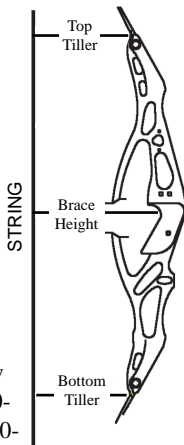


adjustment bolt clockwise will increase bow weight. Turning the same bolt counter-clockwise will decrease bow weight. Be sure to lock down the weight/tiller locking screw before shooting the bow.

Warning: Do not adjust weight on any adjustable bow beyond the limit shown in the drawing above. The weight/tiller bolt should never go above flush with the riser. There must be at least six threads of engagement between the riser and weight tiller bolt.

Tiller

Tiller is the difference in draw weight between the upper and lower limbs. This is easily measured by noting the difference in distance between the top limb butt to the string, and the lower limb butt to the string. To set tiller, measure the distance from the base of the limb pockets to the bow string on both the top and bottom bow limbs. The main function of tiller is to allow the archer to more easily and comfortably aim during the draw. When initially putting your bow together, we recommend you begin with 0-1/8" positive tiller. (Bottom measurement 0-1/8" less than top measurement.)



Tiller can then be adjusted to fit each individual. If you find your sight moving up as you are drawing, increase the bottom limb poundage slightly, or decrease the top limb poundage. If the sight is moving down as you draw, make the opposite adjustments. To adjust the tiller without affecting bow weight, adjust both the top and the bottom weight/tiller adjustment bolts in equal but opposite directions. **NOTE: A tiller adjustment will move the nocking point position.**

Adjusting Brace Height (“Fistmele”)

Brace height, or “fistmele” is the perpendicular distance from the bowstring to the pivot point of the handle. This height is an important aspect of tuning. The following chart gives you the recommended brace height range for your Hoyt recurve bow.

Brace Height Range Chart (Standard Limbs)

| <u>Riser Length</u> | <u>Long Limbs</u> | <u>Medium Limb</u> | <u>Short Limbs</u> |
|---------------------|----------------------------------|----------------------------------|----------------------------|
| Short Riser (23") | 8 1/2 - 9 1/4" 21.5 - 23.5 cm | 8 1/4 - 9" 21 - 22.8 cm | 8 - 8 3/4" 20.5 - 22 cm |
| Long Riser (25") | 8 3/4 - 9 1/2" 22 - 24 cm | 8 1/2 - 9 1/4" 21.5 - 23.5 cm | 8 1/4 - 9" 21 - 22.8 cm |

Note: Subtract up to 1/2" for FX limbs.

Slight adjustments can be made to the string to adjust brace height. Adding twists will increase the brace height while removing twist will decrease the brace height. Generally, Hoyt does not recommend more than 50 or less than 10 twists in a string. Optimum brace height is one that gives a smooth bow action, good arrow flight, tight grouping and often yields the quietest shot.

Choosing the Correct String Length

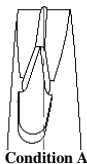
Depending on the length of your riser/limb combination, you can use the following string lengths. String length is approximately three inches shorter than the bow length. The following string lengths are actual lengths, when ordering strings from Hoyt USA use the bow length as a reference.

String Length Recommendations

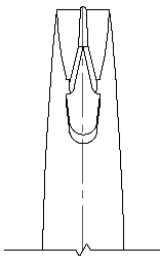
| <u>Riser Length</u> | <u>Long Limbs</u> | <u>Medium Limbs</u> | <u>Short Limbs</u> |
|---------------------|--------------------------|--------------------------|--------------------------|
| Short Riser (23") | 68" bow 65" 165cm | 66" bow 63" 160 cm | 64" bow 61" 155 cm |
| Long Riser (25") | 70" bow 67" 170 cm | 68" bow 65" 165 cm | 66" bow 63" 160 cm |

Adjusting Your Pocket Alignment (Select models)

An adjustable pocket system allows you to adjust the limb pockets to achieve optimum limb/riser alignment. This allows archers to more easily determine centershot, but has little effect on accuracy or shootability. **The limb pockets are set at the factory and generally do not need adjustment.** If the pocket needs some adjusting, first string the bow (riser and limbs only). Check the limb alignment of both the top and bottom limbs by viewing down the bowstring from end to end on the face of the bow. While looking down the string line, check the location of the tip you are holding to the face of the limb in your hand. The limb tip should be reasonably close to the center of the limb.



Need to adjust
limb tip to the
right.



Need to adjust
limb tip to the
left.

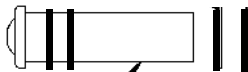
Adjusting the Pocket

The Matrix and AeroTec limb pocket design is the most advanced pocket alignment adjustment system available today. This limb alignment system maintains its settings in all conditions. You can adjust your limb alignment to make it perfectly compatible to the riser simply by removing or adding the supplied washers to the alignment dowel.

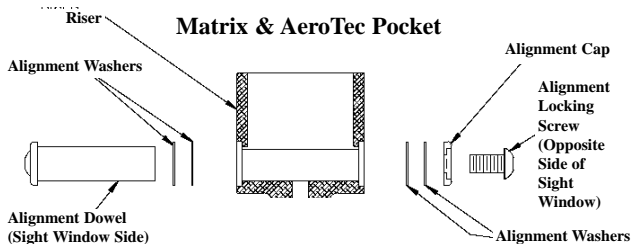
To adjust your pocket follow these directions:

1. Unscrew the alignment locking screw and remove the alignment cap and washers. Pull the alignment dowel and washers out from the sight window side of the pocket. (Do not lose any parts!).

2. (Refer to the limb visual above) If your limb is showing **Condition A**: Simply ADD washers to the SIGHT WINDOW SIDE (MAXIMUM OF 4) of the alignment dowel. If your limb is showing **Condition B**: REMOVE WASHERS from the sight window side of the dowel. Limit your adjustments to one washer at a time. You can store any unused washers between the riser and alignment cap because the washers on the alignment cap (non-sight window) side of the pocket do not affect the alignment.



Adding washers to the dowel moves your limb tip to the right, as removing them moves the tip to the left. Refer to page 13 for alignment.



3. To reassemble the pocket, first insert the alignment dowel and washers in the riser (be sure to always put the alignment dowel in on the sight window side of the riser). Place the washers, alignment cap and alignment locking screw in the dowel. Be sure washers are not caught on the threads of the alignment screw, they must be flat against dowel shoulder prior to tightening.

Rotate the dowel until the flat surface of the dovetail slot matches the flat surface of the limb pocket. Then securely tighten the dowel locking screw with the supplied allen wrench.

Applying a Nocking Point

A nocking point marks the exact position of the arrow on the bowstring for each shot. To apply your nocking point, slip an adjustable nock set on the center serving, and slide it into position. Initially, set the nocking point at approximately $\frac{3}{8}$ " above the level point of the rest. Close the nock set with nocking pliers so it is firm, but do not over tighten the nock set as it could break your serving.

Setting Your Center Shot

The final step of tuning is to position your center shot. To start, position the arrow slightly outside of the center of the bowstring. To do that, begin by nocking an arrow and placing it on the arrow rest. Do not draw the bow, but position yourself behind the string

side of the bow, looking down the arrow. Align the string down the center of the limbs and riser and check to see the position of the arrow tip relative to this line. Adjust the plunger or arrow rest until the inside edge of the arrow shaft aligns with this line.



Fine Tuning

For advanced methods, see your local dealer. An additional source of detailed information is the Easton Arrow Tuning and Maintenance Guide, available for a nominal fee from Easton Technical Products, 5040 W. Harold Gatty Drive, Salt Lake City, UT 84116 (801) 539-1400, or on the Internet at www.eastonarchery.com.

Warranty

Hoyt USA recurve handles are warranted against defects in materials and workmanship to the original owner for the life of the product. Hoyt USA recurve limbs are warranted for one (1) year. A dated proof of purchase is required for warranty coverage. Products must be purchased through a Hoyt USA authorized dealer for warranty coverage. 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 or use of attachments or accessories that cause excessive stress.

There are no other warranties, expressed or implied, that extend beyond those written here. No agent, employee or representative of Hoyt or its dealers has the authority to bind Hoyt to any agreement not herein stated. Buyer agrees that the sole and exclusive

remedies for breach on any warranty concerning Hoyt bows shall be repair or replacement of defective parts. Hoyt shall not be liable for injury or property other than the bows themselves.

Warranty Service

To obtain warranty service, you should refer to the Hoyt Dealer where you purchased your Hoyt bow. The dealer can help you determine if Hoyt factory service is required or if the repair can be completed by the dealer. If the bow must be returned to the factory, the bow owner is responsible for the return postage to Hoyt. Hoyt, in turn, will match the postage for reshipping the repaired bow.

Hoyt bows requiring Hoyt factory warranty service should be sent to:

Hoyt USA
543 N. Neil Armstrong Road
Salt Lake City, UT 84116-2887

Note: Before any bow is returned to the Hoyt factory for warranty service, a Hoyt **Return Authorization Number** must be obtained by calling Hoyt USA at (801) 363-2990.

Any bow returned must have the following:

- Must be sent postage paid.
- Must include a copy of the dated sales receipt.
- Must include a short note explaining the nature of the problem.
- Must include a Hoyt Return Authorization number.
- Should not include accessories unless otherwise instructed when the Return Authorization Number is obtained.



IMPORTANT INFORMATION

1. Never Dry Fire Your Bow. Dry fire means to draw and release your bow without an arrow. Shooting without an arrow, which absorbs most of the bow's stored energy, could cause severe damage to the bow and possible injury.
2. Never Expose Your Bow to Extreme Heat or Prolonged Moisture. Excessive heat, such as could be experienced on a sunny day inside of a closed vehicle, could cause limb failure. Prolonged storage in a hot, dry attic or damp basement could also be damaging and will void your warranty.
3. Carefully Inspect Your Bow Before And During Each Shooting Session. Carefully note condition of bowstring, limbs and riser before you shoot. Frayed bowstrings should be replaced. Damaged or suspect limbs should be reported to the dealer where you purchased your bow.
4. Inspect All Arrows. Before Shooting. Inspect your arrows for defects. Replace cracked nocks and loose fletch and discard fractured or dented arrows.
5. Always Be Safe. Never point or aim a drawn bow at anything you do not wish to destroy. Never shoot straight up. Be sure of your target and what lies beyond it. Only shoot in a safe direction. Children **must** be supervised by an adult.

Warning: This bow is a deadly weapon. Always abide by all safety advisements. Children should be supervised by an adult.