

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.

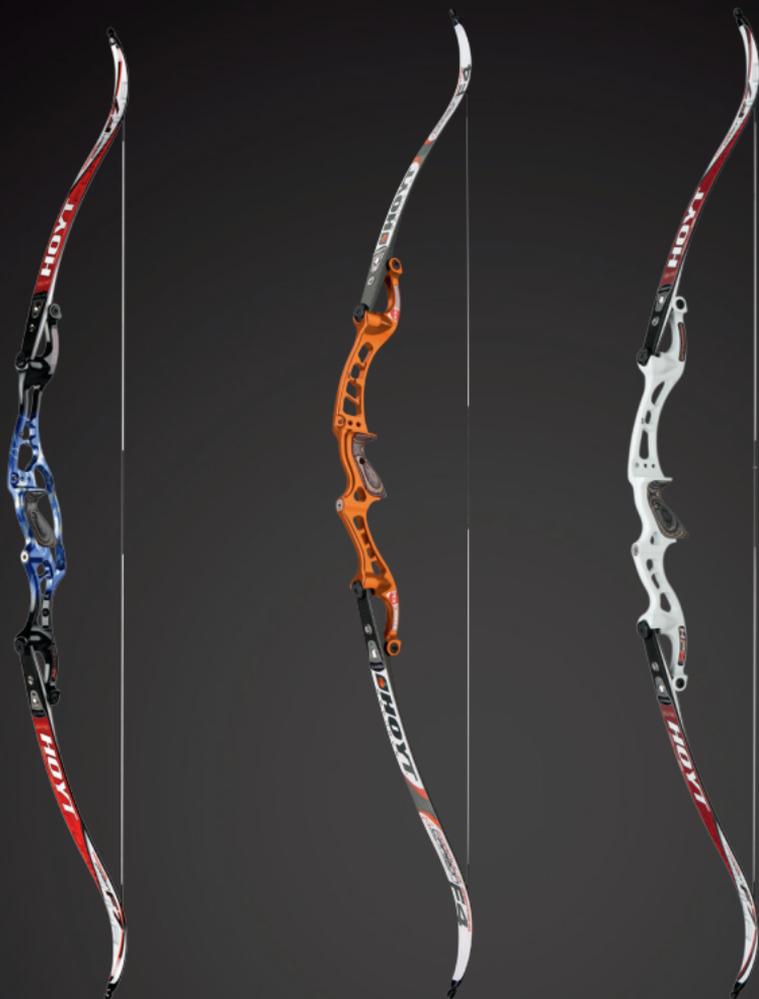
Since 1931 Hoyt has led the way in recurve bow technology - We are proud to continue the tradition. With nearly three-quarters of the top archers around the globe shooting Hoyt recurves, no bow is more thoroughly tested and competition proven than a Hoyt. Now more than ever, you can shoot your shot and let your Hoyt do the rest.



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# Hoyt Recurve Owner's Manual



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# IMPORTANT INFORMATION

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**Warning: This bow is a deadly weapon.  
Always abide by all safety advisements.**

**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. Always use a recurve bow stringer for stringing and unstringing any recurve bow.** Failure to do so could result in personal injury and or damage to the bow.

**3. Never expose your bow to extreme heat or prolonged moisture.** Excessive heat, such as that 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.

**4. 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.

**5. Inspect all arrows for defects before shooting.** Replace cracked nocks and loose fletchings and discard fractured or dented arrows.

**6. 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.

**7. Always be safe.** Never shoot straight up. Wear safety glasses when working on or shooting your bow. Only shoot in a safe direction. Always use a bow stringer to string a recurve bow. Do not use the step-through method to string this or any recurve bow. Never point or aim a drawn bow at another person.

# OWNER'S PERSONAL RECORD

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Fill in the following personal bow record for your reference:

Riser Serial Number \_\_\_\_\_  
*(Located on the riser under the grip or in the limb pocket)*

Limb Serial Number \_\_\_\_\_  
*(Located on limb label)*

Hoyt Riser Model \_\_\_\_\_

Purchased From \_\_\_\_\_

Purchase Date \_\_\_\_\_

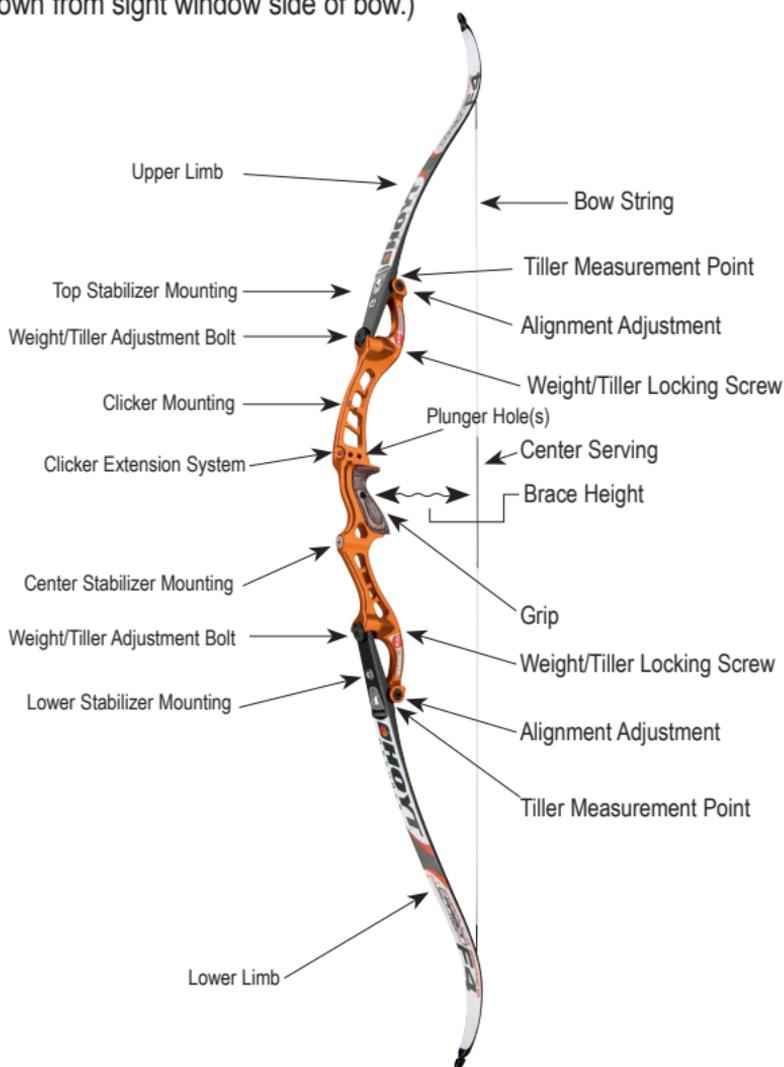
Length \_\_\_\_\_ Weight \_\_\_\_\_

**Save your sales receipt and serial number for your bow.** The sales receipt, as well as your serial number, 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 attach your sales receipt for safe and convenient keeping.

**IMPORTANT!**  
**Please attach 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.

Riser Length	Long Limbs	Medium Limbs	Short Limbs
21"	66"	64"	62"
23"	68"	66"	64"
25"	70"	68"	66"
27"	72"	70"	68"

## DRAW WEIGHT

To determine the weight on your Hoyt bow, refer to the limb specifications located on each limb.

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 draw weights are measured.

Note: Note: All limb weights are indicated for a 25" riser. Actual limb weight depends upon draw length, brace height, riser length and limb bolt setting.

A diagram of a bow limb label. The label is rectangular and contains several fields for information. On the right side, there is a vertical barcode. The fields are:

- MODEL
- TOP/BOTTOM
- LBS.
- LENGTH
- SERIAL #
- MADE IN THE U.S.A.

# BOW ASSEMBLY

## INSTALLING LIMBS



1. Carefully align the limb dovetail bushing with the corresponding slot in the riser pocket. Push the limb into the locket until the detent button engages. You will feel or hear a light “click” when this occurs, and the limb will stay in place under its own weight when fully seated. It is normal at this stage for there to be vertical movement possible with the limb

2. String the bow using an appropriate bow stringer.

3. Without an arrow pull the bowstring about two inches (40mm) and let go to “seat” the limbs. This completes the assembly procedure.

## ADJUSTING WEIGHT

Hoyt Recurve bows are adjustable over a range of approximately 10%. Factors which affect this include limb length, limb construction, and limb

design and brace height.

1. Unstring the bow using an appropriate recurve bow stringer.
2. Using the longer of the two supplied Allen wrenches; loosen the tiller bolt locking screw (see image on pg. 5). If you plan to increase weight you will need to loosen this screw by more turns than you plan to add to the tiller screw.
3. Turn the weight/tiller adjustment bolt clockwise to increase bow weight. Turn it counter-clockwise to decrease bow weight.
4. Using both Allen wrenches, and holding the tiller bolt in place, re-lock the tiller bolt locking screw.
5. Restring the bow using an appropriate recurve bow stringer.

Note: From the bottomed out position, the tiller bolt should only be backed out to a maximum of six complete turns.

## **ADJUSTING TILLER**

Tiller is a measurement which indicates the weight relationship of the top and bottom limb. This static measurement effects bow reaction and aiming. It is easily measured by noting the difference between the top limb butt to the string, and the bottom limb butt and the string. The difference (if any) is the tiller.

The degree of desirable tiller will vary from archer to archer, depending upon factors such as grip pressure, finger pressure, desired tuning pattern, desired aiming arc, desired bow reaction and more. As a starting point, it is usually easiest to tune a bow with 0 to 3/8" of tiller (distance from bottom limb to string is equal to that of the top limb, or less, by up to 3/8").

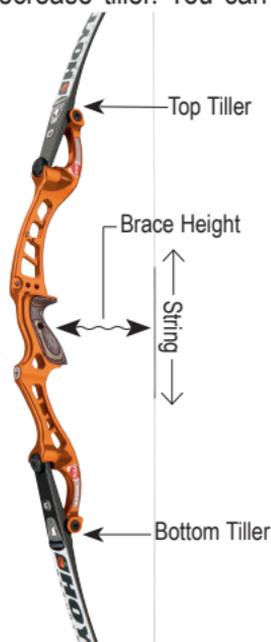
Typically, for most shooters with normal finger and hand pressure, anywhere from 0 to 3/8" of tiller is going to yield a bow which aims easily without "pulling" high or low, and which shoots more quietly.

Measure the tiller as shown in the diagram to the right. If you wish to increase tiller without affecting bow weight, unstring the bow and add turns to the bottom limb tiller bolt, then subtract the exact same number

of turns from the top limb tiller bolt. After re-locking the bolts and set screws, restring the bow. Do the opposite to decrease tiller. You can increase both tiller and bow weight by adjusting the bottom limb only.

## HOYT HARDLOCK ALIGNMENT SYSTEM

Hoyt's limb pocket design is the most precise, reliable pocket system available today. This system will maintain correct settings in the most severe conditions. Out of the package, Hoyt bows are factory pre-aligned and adjustment is optional when used with Hoyt limbs. In general, the vast majority of setups do not require alignment adjustments. Adjustments should not be made before the bow has been shot a minimum of 100 shots. This will allow the mating surfaces of limbs and riser to correctly seat to each other.



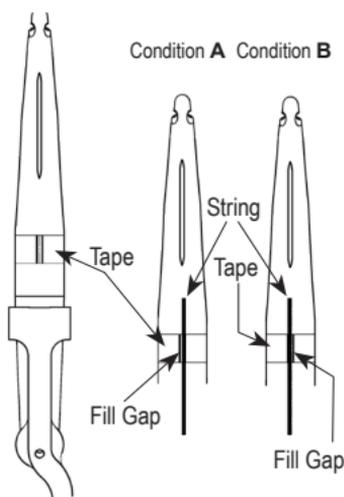
To make an adjustment, follow these directions:

1. With your bow in the strung position, place a piece of masking tape horizontally, approximately 4" (10cm) from the end of the riser on the archer's side of both limbs.

2. Locate the center of the limb with a measuring tape and draw a vertical center line on the masking tape.

3. Measure 1/16" (approx. 2 mm) from the drawn vertical center line and draw additional vertical lines on both left and right sides.

4. If the bow string lines up with the center line, your dowels are properly aligned. If you notice conditions A or



B, proceed with the following directions.

5. Unstring the bow utilizing an appropriate bow stringer and remove the limbs.

6. Loosen the radial locking screw.

7. 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.

8. **Instructions for CONDITION A:** Remove a washer from the right side of the dowel and add it to the left side of the dowel (see p. 7).

9. **Instructions for CONDITION B:** Remove a washer from the left side of the dowel and add it to the right side of the dowel. (see p. 7).

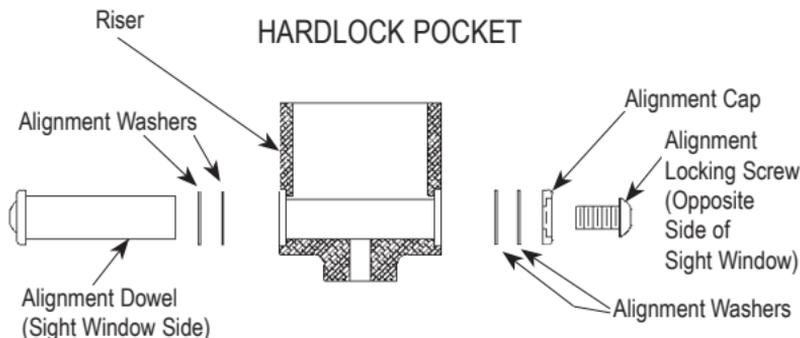
Note: To correct the alignment only add washers to the side that has the gap, as indicated in conditions A and B. Only shift one washer at a time.

10. Once the washers are reconfigured, reinstall the alignment cap and lightly tighten the alignment locking screw.

Note: The factory alignment setting for all Hoyt Recurve bows is two .010 washers on each side of the dowel.

11. Rotate the dowel's dovetail to line up flush with the cut-out in the pocket. Once the dovetail and cut-out are aligned, firmly tighten the radial locking screw and alignment locking screw.

12. Reinstall the limbs and restring the bow utilizing an appropriate bow stringer and verify your alignment adjustment.



# Pivot Block Adjustment

(Available on certain Hoyt recurves.)

**Most Hoyt riser and limb combinations do not require adjustment.**

The riser dovetail pocket is factory aligned and should only be adjusted by a qualified equipment technician. One full sweep of the block to the left or right will result in a corresponding .020" of lateral limb adjustment at the dovetail, which is the same adjustment range as is available for Hoyt risers equipped with the Hoyt Hardlock dowel system.

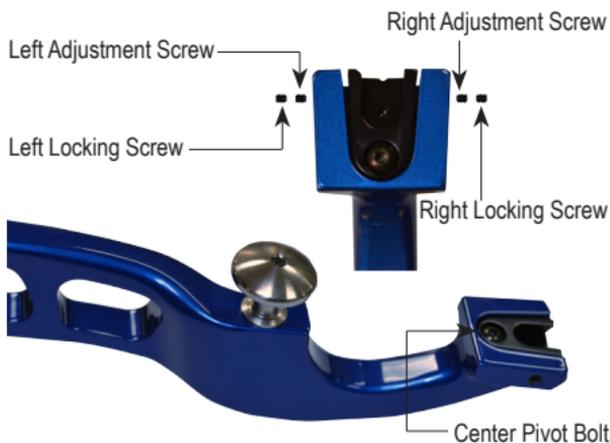
**Attention: Remove the left & right locking screws (see photos) before making any adjustments.**

Do not lose the locking screws. Replacements are available from Hoyt Customer Service or your dealer. Adjustments may be made with the bow in a strung position, however, Hoyt recommends unstringing the bow to reduce wear on the paint finish of the limbs. **WARNING:** Always use a bowstringer when stringing or unstringing a recurve bow.

**Do not attempt to adjust or remove the center pivot bolt on the alignment block.**

With the locking screws removed, access the adjustment screws to make adjustments:

- Removing turns from the right side screw and adding an equal number of turns to the left side screw (viewed from the face or archer side of the riser) will move the limb tip



to the LEFT.

- Removing turns from the left side screw and adding an equal number of turns to the right sidescrew (viewed from the face or archer side of the riser) will move the limb tip to the RIGHT.

Once the proper alignment is achieved, you should snug BOTH alignment bolts against the dovetail block to the tightened position. Then, replace the locking screws and snug them tightly.

## BRACE HEIGHT RANGE CHART

RISER	LIMB	SHORT	MEDIUM	LONG
21" Grand Prix	Length String Length Brace Height	62" 59.25" (151cm) 8"-8.5" (20-21.5cm)	64" 61.25" (156cm) 8"-8.75" (20-22cm)	66" 63.25" (161cm) 8.5"-9" (21-23cm)
23" Grand Prix	Length String Length Brace Height	64" 61.25" (156cm) 8"-8.75" (20.5-22cm)	66" 63.25" (161cm) 8.25"-9" (21-23cm)	68" 65.25" (166cm) 8.5"-9.25" (21.5-23.5cm)
25" Grand Prix	Length String Length Brace Height	66" 63.25" (161cm) 8.25"-9" (21-23cm)	68" 65.25" (166cm) 8.5"-9.25" (21.5-23.5cm)	70" 67.25" (171cm) 8.75"-9.5" (22-24cm)
25" Formula HPX & ION-X	Length String Length Brace Height	66" 63.25" (161cm) 7.5"-8.25" (19-21cm)	68" 65.25" (166cm) 7.9"-8.5" (20-21.5cm)	70" 67.25" (171cm) 8.5"-9" (20.5-22.5cm)
25" Formula RX & EXCEL	Length String Length Brace Height	66" 63.25" (161cm) 8.25"-9" (21-23cm)	68" 65.25" (166cm) 8.5"-9.25" (21.5-23.5cm)	70" 67.25" (171cm) 8.75"-9.5" (22-24cm)
27" Formula HPX & ION-X	Length String Length Brace Height	68" 65.25" (166cm) 7.5"-8.25" (19-21cm)	70" 67.25" (171cm) 7.75"-8.5" (20-21.5cm)	72" 69.25" (176cm) 8.5"-8.9" (20.5-22.5cm)
27" Formula RX	Length String Length Brace Height	68" 65.25" (166) 8.25"-9" (21-23cm)	70" 67.25" (171cm) 8.5"-9.25" (21.5-23.5cm)	72" 69.25" (176cm) 8.75"-9.5" (22-24cm)

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 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.

## **ADJUSTING CENTER SHOT**

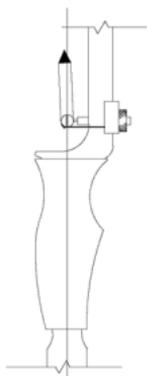
The final step of tuning is to position your center shot. To start, position the arrow slightly outside of the center of the bowstring. To do that, begin by nocking an arrow and placing it on the arrow rest. Do not draw the bow, but position yourself behind the string side of the bow, looking down the 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 online at [www.eastonarchery.com](http://www.eastonarchery.com).

## **LIMB MAINTENANCE**

Hoyt limbs are very low maintenance. However, a few simple actions can help keep them looking new and prevent minor problems. The most common limb issue is loose hardware. Over time, the stainless-steel button head screw holding the limb detent system in the limb can loosen. Use an Allen wrench to periodically re-tighten this screw. Do not over-tighten. The screw is designed to be removable to allow cleaning in the event of water immersion. However, the components are corrosion resistant and normal rainfall is not a problem.



Lubricant is not required on any limb component when the limbs are used in Hoyt risers.

Hoyt foam limbs (such as Formula and Grand Prix F7) are water-resistant. Occasionally you may apply a light coat of quality car wax to the painted surfaces to keep them looking fresh, but this is not required. Wood core limbs are potentially susceptible to moisture infiltration if the protective finish is damaged (by a deep scratch, for example). The use of clear nail polish or clear automotive touch-up paint will help re-seal the wood and prevent moisture problems. After use in wet conditions, towel dry your limbs and riser to prevent water damage (do not use a heat source).

## **WARRANTY**

Hoyt recurve handles are warranted against defects in materials and workmanship to the original owner for the life of the product. Hoyt recurve limbs are warranted for one year. A dated proof of purchase is required for warranty coverage. Products must be purchased through a Hoyt authorized dealer for warranty coverage. Hoyt, 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.

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.

Before any bow is returned to the Hoyt factory for warranty service, a Return Authorization Number must be obtained through an authorized Hoyt pro shop. Bows returned to the factory without a Return Authorization Number will be sent back.

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

