Bow Setup ILF

Riser

Assuming bow is the correct size – as a guide draw length + 40”. Draw length is draw to button +1.75” or to back of riser, for a beginner add another inch. With a 25” riser short medium and long limbs make 66/68/70” bow. This assumes you are drawing correctly with a consistent anchor and not over drawing. If you are an odd one – a shorter bow is generally a bit faster, a longer bow will be a bit more stable and may give a bit more chest clearance and nose contact. At the extremes there are 21”, 23” and 27” risers to make62/64/72” bows and even XL limbs to make a 74”.

Limbs

Assume limb poundage is suitable, beginner female 18-24lb, beginner male 22-28lb. As a guide put limbs on bow, hold at full draw 5 times for 5 seconds – if Elvis elbow shakes appear at third draw or less, probably too heavy, no Elvis at fifth, too light. Need to be a bit of a challenge without destroying form. Limb poundage can be adjusted by around 10% by use of limb bolts, wind in increases poundage, wind out decreases poundage. Check maximum number of turns out! Too far out will make bow impossible to be setup properly. So 24lb limbs MIGHT wind down to 22lb and go up to 26lb. The next set might be 28lb that will wind down to about 26lb and go up to 30lb. Don’t be tempted to go up more than 4lb at a time.

Arrows

Arrows need to match your draw length (for a beginner at least 1” longer) and need to have the spine (bendiness) matched to the poundage of your bow at your draw length. The Easton spine chart can be used as a guideline. (NB I said guideline!)

Do not skimp on riser, rest, button and sight, do not get expensive limbs or arrows for your first set, you will grow out of them.

A decent shop will measure all this and help and recommend.

1 Limb alignment

Looking to have the string running centrally through both limb bolts. Use Limb Gauges.

String should not move out of groove when drawn.

To adjust use grub screw on side of riser – note some risers have locking screws – loosen one side first, then tighten other side, half a turn or less at a time. Some risers have shims to move.

Look at string from limb end and ensure limb tip is not to one side.

Can see if riser is twisted using two arrows on limbs near to riser with the bow balanced on two chairs.

2 Tiller

The difference between the base of the top limb and string compared with the base of the bottom limb and the string.

Most modern archers with modern kit shoot with a low tiller app 3mm – 4mm positive, the top limb is 3mm or 4mm further away from the string than the bottom limb or zero tiller. Check for quietness. Old school – up to 6mm positive tiller. Barebow stringwalkers may have neutral or negative tiller.

Adjusted by moving one limb bolt in or out a half turn till tiller is correct. not recommended to be done while strung as rear of limb bolt can mark the limb. Slacken off rear locking stud, adjust limb bolt, lock locking bolt, string and check using bracing height gauge.

You can fine tune by getting someone to check if both limbs go together or, does one "flap about" after the other. If they are not going together experiment up and down 0-5mm.

3 Rest

Height set so that centre of arrow is central on button and end of wire just protruding outside of arrow NB this can only be done after setting centreshot.

A decent rest will have the ability to be adjusted and the arrow will stay on, a cheap rest may need some wire bending (be careful)

4 Nock point

Top of bottom nock normally set as a starting point at 1/8" – 1/4" above the arrow rest.

To check for correct nock height, you need to be able to shoot a good group of arrows, then shoot a bareshaft (or two) if it goes above the group the nock is low, below the group nock is high. A good way of doing this is to use electrical tape for a temporary nock then tie on when sorted.

5 Centreshot

For a RH archer, when the arrow is nocked, looking from the rear of the riser, with the string lined up with limb bolts, the tip of the arrow should be just left of the string – no gap. To adjust slacken grub screw on locking ring, turn ring until it looks correct, tighten and check (adjust rest to edge of arrow as well). Recheck end of wire rest just protruding outside of arrow

6 Brace Height

Look for manufacturer/supplier recommendation, as a generalisation

66	8.25-9.00"	20.5-23cm
68	8.5-9.25"	21.5-24cm
70	8.75-9.5"	22.5-25cm

To adjust add or remove twists in string, this will not increase or decrease bow poundage.

Use bracing height gauge to check, measured from centre of button to string, or from low point of handle to string. You can fine tune by setting brace height at 1/8" increments through the range and listening for the quietest one – not easy.

NB beginner bows with Dacron strings are normally quite a bit higher.

7 Sight

The height of your sight is a bit trial and error but, bridge of nose to chin – sight to rest is a starting point for 20 yards.

The sight pin should initially be set directly above the arrow, with windage central.

8 Stabilisation and damping

When a barebow is shot, the top of the bow will rotate back towards you, barebow archers will add a weight into one of the lower front bushings to stop this and it will also help to steady the bow at draw by lowering the centre of gravity.

Olympic setup normally has long and short rods, the centre of gravity (COG) of the bow should be in the centre of the handle at full draw, this normally means the COG is forward of the handle at rest. It's a case of experimentation. Though, the longer and lighter the rods are, the more effective the end weights are. Heavy rods just add overall weight to the bow. More expensive rods tend to be stiffer and lighter. A wobbly rod is useless.

Modern archers use a v-bar setup with equal weights on both rods. Never seen any top archers with odd weights. Dampers on the rods; allow after shot bow vibration to be absorbed by the flexing and allowing the weight to vibrate. (Only one after damper may work) Generally about twice as much in total on short rods as on long rod.

Short damper rods (depending on riser mount points) may be added to the front of the riser for additional damping or balancing.

9 Basic tuning

Assuming at 20yds your arrows are grouping at less than saucer size then you can do some tuning, if your arrows are a bit stiff, they will tend to group a bit left, reducing the spring tension in the button can help. If they are grouping a bit right, increasing the spring tension can help. Opposite for LH.

However poor posture, poor alignment, poor bow hand position, poor release can all give results that look like a very poor bow setup.

I'm not a fan of bareshaft tuning for left/right – if you can group 5 arrows tightly in the gold at 20 yards, does it matter if a bareshaft is 2" left or right, just fletch it! There are other methods.

10 Records

You need to record all your measurements so they can be checked when you set your bow up – always check brace height, check the whole setup regularly. Check all fittings are tight and secure.

Recurve Bow Setup

1. Limb Alignment
2. Tiller
3. Rest Height
4. Nock
5. Centre Shot
6. Poundage
7. Bracing Height

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