

Tips On Recurve Bow Tuning

When it comes to tuning my bow I've learned the hard way. Like too many archers I would spend hours analyzing everything and fiddling with my equipment, searching for those elusive few points that would push me up the leader boards. It didn't work, but it certainly provides a very neat excuse. How many archers have you seen blaming their arrows, bow or stabilizers for a poor performance? Although it may be difficult to accept, at the end of the day so long as the arrows are flying reasonably straight without any clearance problems then all the fine tuning will make very little difference to your scores. In fact, the frustration of it all can actually make you shoot worse. The time would be better spent perfecting your form, doing some fitness work or trying some of that mental training we've all been meaning to get round to. Some basic tuning *is* important of course and shouldn't be neglected, but guard against the trap of analyzing everything to death. Its surprisingly easy to fall into.

A sensible approach is to perform a quick run through the basic tests every few months to allow for slight changes in your shooting style or whenever you make a major change in equipment. Personally I'd recommend the following:

1. Set the bracing height in the middle of the recommended range and adjust up and down until the bows feels best. A nice booming sound and not too much shock are the things to feel for. If you are having clearance problems a high bracing height helps.
2. Screw the pressure button in so that the arrow is lying just slightly left of center as you look along the shaft (reverse if left handed). Prop the bow against a chair and step back to get a clear picture.
3. Shooting bare vs. fletched shafts at about 15m adjust the nocking point until the arrows hit at the same height. Masking tape makes a good temporary nocking point and as a starting point the bottom of the nock should be about 1/4 inch above square. If the bare shaft hits below the fletched group then *lower* the nocking point and vice versa. However, a nocking point that ends up below the horizontal is highly undesirable as the fletchings are likely to smash into the arrow rest on the way out. If the bow tunes best that way then either you have a very odd technique or (more likely) the tillering of the limbs needs adjusting. If your bow has an adjustable tiller then measure the perpendicular distance between the start of the lower limb (below the handle) and the bow string. This should be slightly *shorter* than the corresponding distance for the top limb, usually by 1/8 to 1/4 of an inch. Your bow manufacturer may have their own guidelines. If the tiller is out, make very small adjustments and try again. At the end of the day remember that a slightly high nocking point is generally much better than a slightly low one.
4. Leaving the horizontal setting well alone, adjust the button *pressure* until the bare and fletched shafts hit the same spot. Bare shafts hitting right of the main group require more button pressure and vice-versa (again, reverse if left handed).
5. Check your arrow clearance. If the arrow is smashing against the bow on the way out you will never get decent arrow flight. Unless you are shooting arrows massively mis-matched for your

bow, the arrow is most likely to make contact at the rear of the shaft and particularly on the fletchings. You can buy spray-on talcum powder to spray a fine layer along the rear of the arrow, which will reveal even the smallest contact with the bow. Taking care not to brush it off, shoot the arrow into a bare spot on the target and any tell-tale marks will indicate a possible clearance problem. 99 per cent of the time, these are on the fletchings, in which case simply rotate them around slightly and try again. If this doesn't work or if you get obvious contact on the arrow shaft itself then try raising your nocking point and/or bracing height and/or move the pressure button further out depending on where the arrow makes contact. If none of these work and the contact is serious then you may need some new arrows...

6. Err..thats it really. Some may want to try "walk back tuning" as an additional test. This basically involves shooting arrows from 5 to 50 meters in small intervals and the impact pattern on the target will reveal the "wobble" of the arrow in flight. See Roy Mathews "Bow Tuning" or his "Archery In Earnest" book for details (although I dislike his massively over-complicated approach to archery technique). 7. If you feel really masochistic and want to try some ultra-fine tuning then there are no hard and fast rules. I'd recommend the common sense approach adopted by the 1988 Olympic Gold medalist Jay Barrs. After a basic tune he shoots his arrows at long range and just "tweaks" things to see the effect on his grouping. Most people (like myself) don't get much improvement this way but if your a budding Olympic finalist it might be worth a try.