

## Tiller Tuning, By Perry A. Ratcliff

Tiller tuning methods described elsewhere require an archer of exceptional abilities to produce consistently good results. The following tiller tuning procedure should be useful to a much larger segment of archers.

My tiller tuning procedure is a simple two-step process. In the first step, you adjust the tiller to where you can best aim the bow. In the second step, you fine tune the tiller to where the bow is most forgiving.

### Step 1

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Shoot as many shots as necessary to determine whether the bow is pulling you down below the spot or the bow is drawing you up above the spot. Drawing "on the spot" will help you best determine what direction the bow is pulling you. If the bow is pulling you down below the spot, decrease the weight on the bottom limb or increase the weight on the top limb. If the bow is drawing you above the spot, increase the weight on the bottom limb or decrease the weight on the top limb.

During this part of the tuning process it is not critical that you continue readjusting the nocking point for good arrow flight. You are only interested in getting the bow to aim with the greatest ease. After you have adjusted your tiller, continue shooting the bow to see how well it aims for you and adjust the tiller as described above until the bow consistently draws on or near the spot.

When you have the bow aiming well, readjust the nocking point (and peep sight height) to obtain proper arrow flight.

### Step 2

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You now have the bow adjusted for the best "feel" in your hand and can begin tuning for best grouping. For this part of the tuning process it is necessary to evaluate how well you execute each shot. If your bow is tuned properly all of your "Good" shots are going to group together.

What you need to do now is identify what happens to your arrows when you shoot an arrow that has been aimed well but execution was flawed. Disregard all shots that are not well aimed (did you do a good enough job in step 1). If tiller is not yet adjusted perfectly, your questionable shots will tend to go consistently high or consistently low. These high or low shots are what you will be looking for when fine tuning your tiller. If your tiller is adjusted correctly, some of your poorly executed shots will group a little high and some will group a little low.

If your poorly executed shots consistently group low, decrease weight on your bottom limb or increase weight on your top limb. If your poorly executed shots consistently group high, increase weight on the bottom limb or decrease weight on your top limb.

This fine tuning process should not be completed in only two or three ends because you are making adjustments based on where your poorly executed (but well aimed) shots are going. During this fine

tuning process, make adjustments on only one limb and never make adjustments of more than  $\pm \frac{1}{4}$  turn from your initial setting of step one. I generally make my fine tuning adjustments in  $\frac{1}{16}$  turn increments.

Unlike most tiller tuning methods, this procedure works well at even short distances. I generally do my tiller tuning at 20 yards. At 20 yards, I try to determine whether my poorly executed (but well aimed) shots consistently drift high of the spot or low of the spot and adjust accordingly.