

# STAY TUNED

## PART ONE

### Part one of Andrew Smith's guide to recurve bow tuning for beginners

In issue 60, I put forward a number of reasons why beginners should never worry about bow tuning in their first 12 months of shooting, especially if their bow has been set up for them and they have correctly-spined arrows.

But what if the basic set-up is clearly not right and everyone can see that your arrows are wobbling off when you shoot? Now is the time to consider bow tuning. Initially, focus on improving your form to correct the arrow flight, but if you're already satisfied with this, check your equipment for slackness, broken pieces, and that the arrows are the correct spine and not hitting



the handle. Only after these checks should you start tuning your bow.

Regardless of what anyone tells you, it is impossible to ascertain how and what needs changing just by watching an arrow in flight. All this will show you is that something needs changing, but not what it is. Fortunately, there are a number of checks you can do to find out. In fact, if you are watching your arrows as you fire them then you are not shooting correctly, as this action too affects the arrow's flight.

All of the adjustments we will be looking at require you to shoot your arrows, so your current ability will have a big influence on how much of a difference these alterations will make to your arrow flight and, ultimately, to your scores. To see any benefit at all, be honest with yourself about your skills – if only some of your arrows are hitting the target at 40 yards

**Above: Your rest shouldn't protrude far past the arrow**

(30m) in groups of around 18" (45cm) in diameter, then you are not ready for tuning. Go back to technique or ask for help from your club coaches.

#### Do these adjustments work?

All the adjustments suggested here are not cutting-edge but have been refined over many years by top archers around the world. They are proven to be the most reliable way of setting up your equipment to match your shooting style and ability. The logic is that fletchings help to steer and stabilise the arrow in flight, so if you can get the bare shaft to fly relatively straight there will be less work for the fletchings to do, meaning less drag and greater speed, hence a more accurate arrow.

There is a set order in which these adjustments should be made – this is not set in stone, but if you do follow the suggested

**Left: The string should align centrally down the limbs and riser**

order it will be easier to understand the results and make the necessary adjustments.

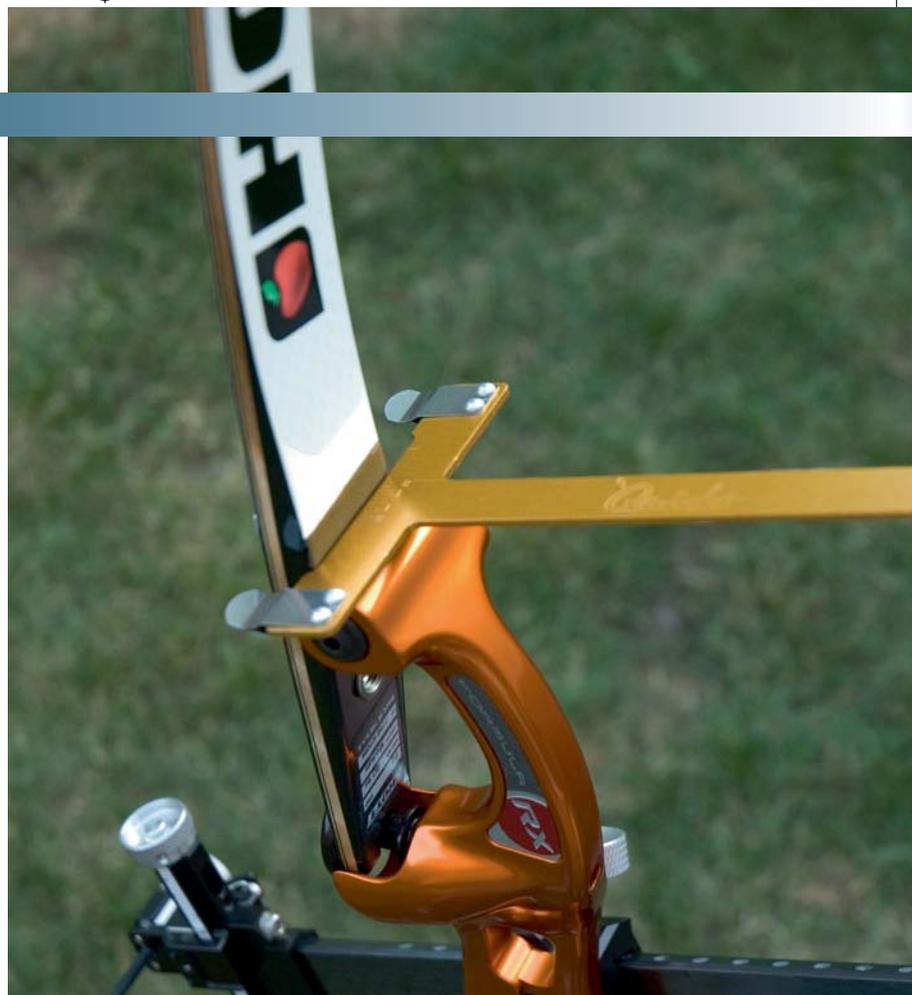
### What will they prove?

The test results will show you what your arrows are doing in flight and what adjustments might be required to make the arrow flight more accurate. Your shooting posture, skill level and release, as well as your arrows and bow set-up, will all have a bearing on how straight your arrows fly, so don't expect your results to match those in the pictures.

### The arrows

All the adjustments we will cover apply only to aluminium arrows. As you progress you will notice lots of archers shooting carbon or A/C arrows (aluminium tube carbon coated in carbon). These are very high tech and offer greater accuracy at the longer distances, because they fly faster and are less affected by the wind, if tuned correctly. Carbon arrows also behave differently in flight so some methods, especially the walk back test mentioned here, are not suitable for these types of arrows. Although you might be lucky and gain some insight into how to adjust your button, for many these walk back patterns are hard to recognise. The joys of carbon arrows are a way off yet, but once you're ready for carbon, you will already be a better archer and have greater understanding of how your equipment behaves. Just remember, with all types of bow tuning it is always best to keep it simple until you are shooting scores in excess of GNAS Bowman/FITA 1100. These improvements in your shooting form will have the most influence on your progress.

**Below: Note where you place your nocking point so you can check it before you shoot**



### The button

If you are currently shooting using one of the white plastic rests with no button, you will need to upgrade to a button and an arrow rest designed to work with one - you can continue using the white rest but you will need to remove the plastic strip above the finger of the rest (acting as a button). All the adjustments mentioned here, with the exception of the nocking point, will be made using the button.

You do not need to go out and buy the most expensive button on the market. A cheap one for around £8 will be okay – just make sure the plunger movement feels smooth and doesn't stick (sometimes you can remove the plunger and file down the burrs). Buttons around the £20 mark provide the best compromise between price, quality and longevity, although top-of-the-range buttons do give better micro adjustment when tuning your arrows.

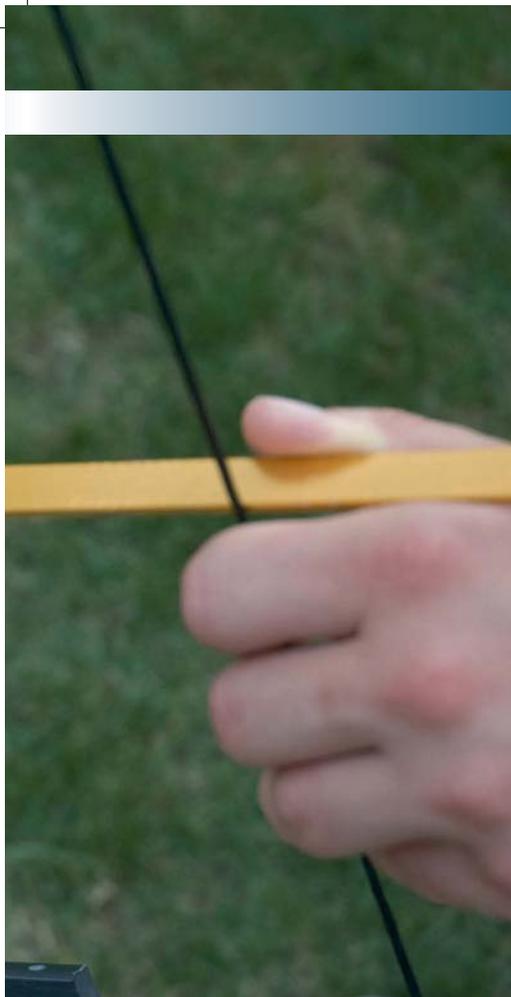
### Bracing height

Currently, I would expect you to string your bow and get into the habit of checking that it is within the manufacturer's specified range, using those same measurements every time you shoot.

The bracing height affects the point and angle that the arrow leaves the string. At this stage, it's not clear whether it's worth spending the time to adjust the brace height to a more efficient position or just to set it in the middle of the manufacturer's suggested range. Finding the optimum position is a case of trial and error, and no one can tell you

the exact measurement - this is unique to you. When you shoot you will notice that the bow makes a noise and depending on the bracing height, this noise will get quieter or louder. Most bows shoot best at the quietest point, which can be found by shooting the bow at different bracing heights (within the manufacturer's guidelines), or by adjusting the length by adding or removing twists in the string (but making sure the string is still long enough to keep some of the twists). Once you have completed this exercise you will find that there are two ideal bracing heights, one at the bottom of the range





Left: Suggested limb tillers will be included with your bow's instructions, but 2mm on the top is usually safe

and one at the top; I suggest that you select the higher bracing height as this will improve arrow clearance and make the shot more forgiving.

### Straying sights

Before we start, you may notice that when you shoot longer distances you have to adjust the windage on your sight, even on calm days. Form and ability aside, the most common reason for this is that the sight bar is not running parallel to the bowstring; so when you move the sight pin you are also changing the windage adjustment. Most sights have adjusting screws to correct this.

*Now that you've got your equipment set up correctly, tune in next issue when Andrew takes you through the tests you need to get that bow perfectly tuned.*

### Simple measures

To many, it'll be a piece of kit taken for granted – but a bracing height gauge is essential for setting up a bow correctly, and checking your gear each time you shoot.

It doesn't need to be fancy – the one Andrew used is perfect! It's tough, reliable and marked in both metric and imperial measurements on its length and to allow you to set nocking point height.

*Quicks Metal Bracing Height Gauge T-Square*

Price: £5.50

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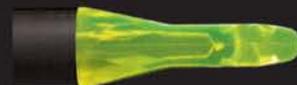
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