Staying in line

Wide-shaft arrows can be difficult to tune, but **Duncan Busby** has a method for making sure they will work for you.

It's that time of year again and like it or loathe it, the indoor season is in full swing. Whether you attend as many tournaments as possible or just shoot a few rounds at the club, most compound archers will want to maximise their line cutting potential by using 'fat' arrows. There are many different varieties to choose from, but due to their diameter (a FITA maximum of 9.3mm) they are notoriously difficult to tune. With a little know-how however, perfecting your indoor set up can be less daunting. As with outdoor tuning, setting up for indoors is all about getting your arrows flying as straight as possible and the first step is to ensure your arrows are the correct spine.

Getting Started

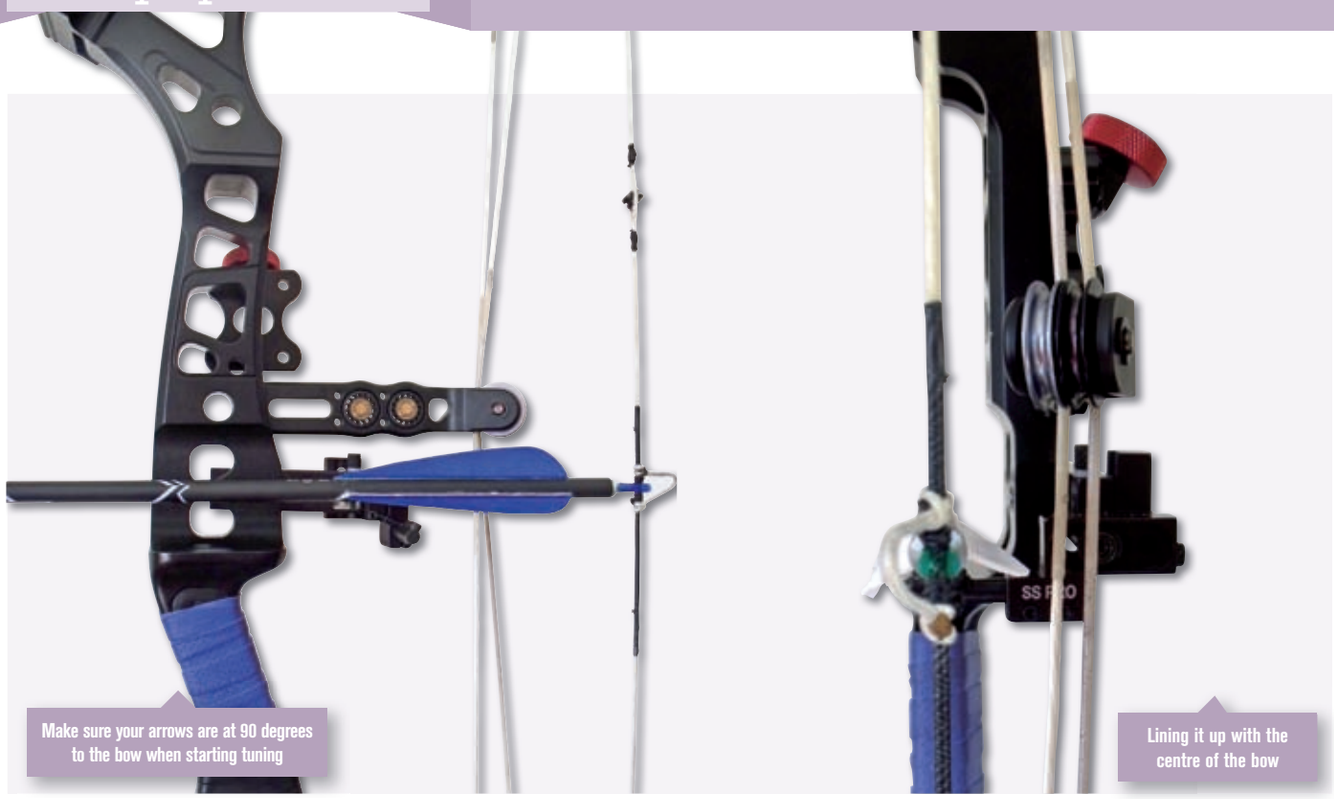
Once you have decided on the make of arrow, you are going to need to choose a spine. To help with this, check out the manufacturers' spine selection charts. It's tempting to go for the 'fattest' arrows you can legally shoot (Easton's 2315's, Carbon Express's 350 spine X-Busters or CXL's), and if you are shooting 50 to 60lbs this is a great choice. But for people shooting lower draw weights a small sacrifice in arrow diameter will make your arrows infinitely easier to tune.

You will also need to decide what length to have - consulting the spine charts again is a good idea. They'll need to be longer than your outdoor ones in order to get the correct spine, but it's best to start by cutting your arrows to the length the arrow chart recommends.

Another must-have when setting up indoor arrows is a good selection of different point weights; these can be invaluable when it comes to fine-tuning. To start with, point your arrows with the manufacturers' recommended point weight - usually around 100 grains. Don't forget, it's important to get your arrows as close to a perfect fit as possible before you start tuning them to your bow.

> The most important part of indoor tuning is the paper test, as this will give you a frame-by-frame view of your arrow flight

Next, you'll need to choose the type and size of your vanes; there is no right or wrong vane for indoor use, although most people will go for longer vanes (up to 5") to straighten up their arrow as quickly and effectively as possible - just watch out for clearance problems that can be caused by larger vanes. If you're concerned about this, try using feather fletchings rather than plastic, as they are less affected by clearance



Make sure your arrows are at 90 degrees to the bow when starting tuning

Lining it up with the centre of the bow

problems. They are also considered by many to be more forgiving than plastic alternatives.

With regard to nocks, most manufacturers make high standard nocks for large diameter arrows so going with your personal preference is fine, just make sure they fit your centre serving because there is nothing worse than your arrows falling off your string due to poor nock fit.

Set-Up

Now your arrows are sorted, it's time to set them up on your bow. To begin with, you will need to tie on your nock point. It's best to start with this at 90 degrees to the centre of the rest mount hole. Make sure you tie it tight so you don't run the risk of it slipping, and at this point you should tie on any d-loop you will use. To set your rest's centre shot position, nock an arrow on the bow, look down the back of the arrow (from behind the string), line the string up with the centre of the bow and get the arrow to line up with the string. Once you've got it, tighten your rest. There are devices that help to line up your centre shot but it's just as easy to do it by eye. Finally, you need to set your rest's height. Nock an arrow and look side-on at the bow, and set your rest so that the arrow is running through the middle of the rest mount hole and tighten. This should give you a level nock point which is a great place to start your tuning. You can also use a brace gauge to do this, either way is fine as long as your arrow is 90 degrees to your string.

What the ideal 'bullet hole' looks like.

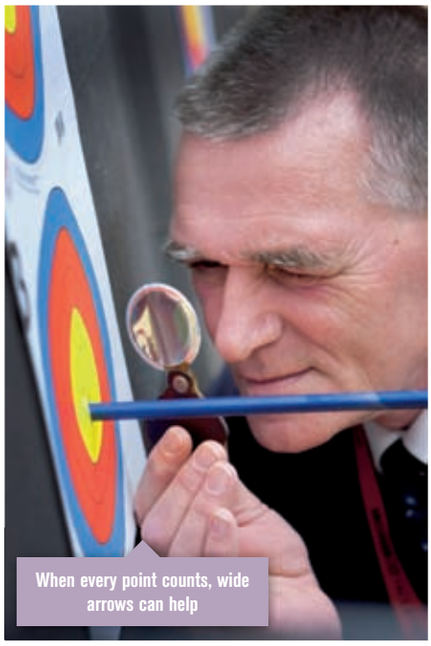
Tuning

Now you are ready to start tuning. The most important part of indoor tuning is the paper test, as this will give you a frame-by-frame view of your arrow flight. To start, assemble your paper frame and stand as close to you as possible. Making sure it's a good shot, shoot an arrow through the paper and examine the hole you've created - we are aiming to achieve a clear bullet hole, so if you find that your arrow caused a tear you will need to correct this before you move on (to diagnose and correct your results, I would recommend getting hold of a tuning guide. There are many available online or from your local archery shop, but I can recommend the 'Easton Tuning Guide' as it's clear and comprehensive).

Once you have got your bow shooting

Tip

Also remember that as you are using heavy arrows, you may need to increase the tension of your launcher or increase your blade strength, particularly if you are getting consistently low shots. Don't forget that every time you make a change to your arrows or your rest it is advisable to re-shoot the paper test to ensure you have not disrupted your arrow flight.



When every point counts, wide arrows can help

bullet holes at close range you will need to repeat the paper test from a longer distance, so walk back two or three metres and shoot the test again. Hopefully you will still be shooting a bullet hole, however, if you find a tear opening up go back to your tuning guide and make the necessary adjustments until you are shooting a bullet hole at this distance as well. You will need to continue to re-test until you get a bullet hole all the way back to 18 metres. At this point, you can be confident that your arrows are flying straight all the way to the target.

'Carbon Express cxl', 'Easton Fatboy', Carbon Express X-Buster' and 'Easton X-7 Eclipse'

Now it's time to start shooting at a target face; after getting your sight mark, shoot at least 30 arrows on a brand new face, examine your grouping pattern and put the target face to one side. This is where you will need the points of different weights I mentioned earlier. Swap the points in a few of your arrows for some slightly heavier ones, get a new target face and shoot another short round.

Repeat this test for all the different point weights you have, shooting on a clean face each time and remembering to make a note of which point weight you used with which face.

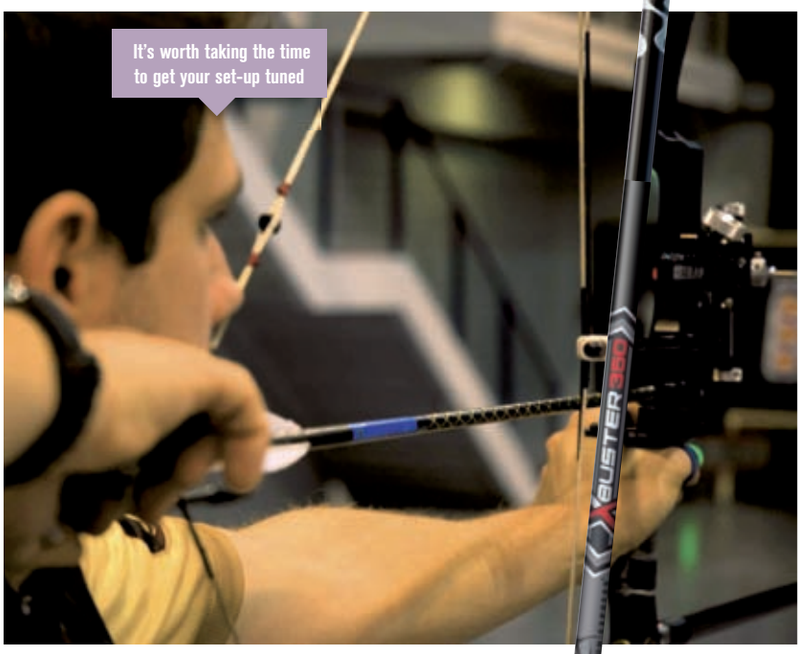
Once you're finished, compare all your faces to see which one has the most consistent groups.

This should allow you to effectively choose the most accurate point weight for your arrows.

Although you may find the heavier points more consistent, they can also cause a high/low pattern on the target face, so further re-tuning your bow by performing another paper test might be necessary.

Finally...

Indoor tuning can be time consuming, but a little patience early in the season should give you the confidence that your equipment is not holding you back. Follow this simple process to help improve your scores this season and enjoy the many possible successes well tuned equipment can bring. Good luck.



It's worth taking the time to get your set-up tuned