



# COMPLETE GUIDE TO: COMPOUND STABILISATION

*Duncan Busby likes to keep things balanced*

Look along any shooting line and you will see an entire row of stabilisers pointing towards the target. These are not actually essential to shoot a bow, but you will see every compound (and recurve) archer with one. So why shoot with a stabiliser at all, and what do you need to consider when choosing one?

A stabiliser has three main purposes; firstly and most importantly it helps you to maintain a steady hold on the target, much like a tightrope walker who holds out a long pole, it helps to maintain balance and slow down movement. Secondly, it directs the momentum of the bow upon release, eliminating any torque

and uncontrolled movement. And finally, it dampens the vibration in the bow when the arrow is released; this is less crucial when it comes to accuracy but it's very important to the comfort and ultimately the long term physical health of the archer.

## DO I NEED A COMPOUND-SPECIFIC STABILISER?

Most manufacturers do not differentiate between compound and recurve stabilisers, though because compound bows expend more energy and stress upon release they require a much tougher and more rigid stabiliser. Rods

made with 'high modulus' carbon to make them strong and stable are able to hold more weight and will dampen any vibration at a much higher frequency, this makes them much more effective for compound shooting.

They don't need to be heavy or over-sized either; basic mass weight can range from between 12oz to 19oz (350g to 550g) before additional weights are added, and modern technology advances mean rod diameters can be as small as half an inch without losing any strength or rigidity.

So it's best to look out for products that are of high quality, and many companies are



A 'STANDARD' LONGROD PLUS SIDEBAR

employing high-precision machining and high-tech parts these days. Doinker in particular use their technology to not only produce aerospace parts for the US government, but to make stabilisers to an even higher level of adjustable precision. For British made quality, have a look at Mybo's stabilisers which feature ultra-stiff carbon shafts able to accommodate heavy weights for maximum rigidity.

### HOW MANY STABILISERS DO I NEED?

A front rod is considered essential to any compound setup whatever discipline of archery you prefer to do, but you can also choose to add one or two side bars to your setup; these are mounted to the riser usually just below the grip. Nearly all compound bows come out of the factory with several threaded accessory holes, so you can choose exactly where you would like to mount your rear bars.

There is no real benefit of using one side bar over a V-bar setup other than the lighter overall weight. Some archers can find it easier to stabilise a bow with two side bars as it offers

### WHAT ABOUT DAMPERS?

Dampers do not help to stabilise your bow, instead they are designed to take vibration out of your shot and add length to the rod, so they in effect extend the distribution of weight along the stabiliser. Dampers are a personal choice and not every archer will choose to use them, though compounds which suffer from excessive vibration may benefit from the addition of dampers. As they reduce noise and remove any shock, they can make a short, fast bow much easier to shoot.

If you're aiming to use dampers to extend the length of your stabilisers, remember to use a good weight system in the first place, so you can add enough weight without having to increase the length of your rod to ridiculous proportions. Thin, flat weights (particularly those made of tungsten) offer the most practical solution; they cut down on the size of the weight stack and because they have a smaller surface area they are affected less by the wind. If you do choose to add dampers



MYBO SILICONE DAMPER

remember to take into account the increased mass weight of your stabilisers because this will affect your bow's centre of gravity. Many manufacturers including Mybo, Bee Stinger, Easton, AAE and Shrewd, to name a few, make dampers to fit most stabilisers, though you'll probably need to use their own weight systems alongside for ease and practicality.

greater choice in how weight is positioned around the bow. Your choice of side bars is as much dependent on how much torque you put into your bow as is your style of shooting. Archers who twist their bow at full draw and those who suffer from anything but a rock-steady aim can benefit from experimenting with some back weight, just remember adding stabilisers isn't going to instantly make you a better archer, they are purely designed to improve instability in your setup.

Target archers usually need at least one side bar to counteract the weight of their sight, likewise hunters and some 3D shooters will usually need to offset the weight of a

bow-mounted quiver. Just think about how and where you shoot, what targets you'll be aiming at and how your bow behaves, then try experimenting with different lengths and combinations to see which stabiliser setup suits your needs.

### WHAT SIZE STABILISERS SHOULD I USE?

As a general rule the longer a stabiliser is, the more it's going to steady your aim and resist bow torque whereas the shorter a stabiliser is, the better it will be at reducing noise and vibration. Each option will suit one discipline over another; target archers generally need the stability and accuracy of a longer stabiliser.

This is not to say that you should use the longest stabiliser you can find, there is a fine balance between being able to practically touch the target with the tip of your long rod and not being able to aim because your stabiliser is so short and unstable. In the 90's, very long front stabilisers upwards of 45" long, with little or no weight on the end, were very popular. But the main drawback, aside from practicality, was that they suffered from instability in the wind. They offered very little mass weight and they had such a large surface area that they were very easily blown around.

Nowadays target archers tend to favour shorter, thinner stabilisers between 28" and 34" long with a good amount of weight added to the end. Getting this balance right allows an archer to alter their sight picture and as result positively affect their aim. Your dot or pin will always move around the target at full draw,



ABISHEK VERMA (INDIA) WITH A DAMPED HEAVYWEIGHT SIDE-ROD SETUP



PAIGE PEARCE GORE (USA) HAS AN AAE SETUP WITH TWIN V-BARS SET LOW ON THE BOW



even if the movement is faint, so being able to control the speed at which it moves simply with your choice of stabilisers is an important factor to take into account.

Longer stabilisers at the front and rear of your bow have a wider weight distribution which will result in a slow moving sight picture, whereas shorter stabilisers, where the weight sits closer together, will usually produce a faster sight picture.

As it's highly impractical to have a 30" side bar out the back of your bow, I'd recommend a length of around 10" to 15" long with

additional weight added on your front rod to maximise stability for target shooting.

Those competing under NFA rules will need a front rod of no more than 12", as the longer rods used by target archers are extremely impractical when you're trekking through forests and sitting in tree hides. The small, fast compounds used by these disciplines also need the extra dampening qualities of a small stabiliser; just remember that you will generally need to add more weight to a shorter rod as the fulcrum point or centre of gravity is much closer to the bow.

## HOW MUCH WEIGHT SHOULD I ADD?

There are two styles of stabilisation among compound archers; those that use a resistance method of aiming and those that balance their bow neutrally. The first relies on a large amount of front weight to create a downward force which the archer must resist. This constant fight against the forces of the bow supposedly creates a steady sight picture, but as a downside it can pull the bow down the target, causing a dipping action while you aim and the occasional low arrow.

Using a balanced approach to stabilisation requires a large amount of mass weight to be added to both the front and rear of the bow, this steadies the bows movement and creates a much more stable sight picture as your bow is not being pulled in any particular direction. As a downside this style of stabilisation makes the bow much heavier to hold, so if you're not very strong you may struggle with a great deal added weight.

Achieving a steady hold is by no means a simple task, and the amount of weight you choose to add to your bow is dependent on your strength, the inherent behaviour of your bow and your style of shooting. Some archers consider a lot of weight at the rear of their bow makes it more stable while others believe it makes their bow less reactive and produce less shot feedback.

So again, experiment and find out what works for you, just remember what works



KRIS SCHAFF (USA) USES A DOINKER SETUP WITH AN ANGLED-DOWN LONGROD

in practice might not necessarily work in competition or high pressure situations, so be prepared to make adjustments as you go.

Most manufacturers sell their own weights with their stabilisers; these are made from steel or aluminium and occasionally from tungsten. They can range anywhere from around 1oz to 3oz for a single weight and you can add as many to your setup as you can humanly handle. I've seen pro shooters stack up to 30oz of weight on the end of their long rods.

Doinker offer a large range of adjustable weight systems, in a multitude of colours and styles, just make sure you choose weights that can be adapted to your stabiliser setup.

## WHERE DO I POSITION REAR STABILISERS?

Where you position your stabilisers is highly dependent on where the stabiliser bushings are on your bow. Though generally speaking placing side bars higher on the bow, directly behind your front rod (either in the rear bushing or in the front bushing on a V-bar mount) tends to make the bow more reactive. This produces more shot feedback and a quicker sight picture, alternatively positioning

and your bow will cant and aim off-centre. Just make sure any angle you choose has a practical purpose and it doesn't cause problems with your results.

## WHAT ABOUT STABILISER ACCESSORIES?



Most stabiliser manufacturers also produce a range of mounts, in either a V-bar or offset bracket configuration; these can allow you to adjust the angle of your front rod as well as the position of any rear bars you may use. So make sure the one you choose has a good range of adjustability and that it is solidly built; you

## THE LONGER A STABILISER IS, THE MORE IT'S GOING TO STEADY YOUR AIM AND RESIST TORQUE WHEREAS THE SHORTER IT IS, THE BETTER IT WILL BE AT REDUCING NOISE AND VIBRATION

side bars lower down, at the bottom of the riser produces a slower sight picture. Shots feel more deadened and the weight of the bow will hang in the hand, like a pendulum, which can help steady the bow. Where you ultimately position any side bars you choose to use will be a case of trial and error and dependent on whether you prefer more weight in the front or rear of your bow.

## SHOULD I ANGLE THEM?

Your front rod will point straight by default unless you use an angled offset; pointing it down slightly helps to create a pendulum effect, much like placing side bars at the bottom of your riser. It produces slower movement and causes the bow to behave as if it has more weight on the end without having to add any actual mass. Several of the world's top elite use this setup. But if you angle too far, your bow will dip and you'll lose arrows down the target.

Adjusting the position of your side bars works in much the same way; if you angle them away from the bow, it will pull sideways which can help counter-balance your sight and any torque you may put into your shot. Too far

don't want your stabilisers moving out of place while you shoot.

You can also consider customising your stabiliser with a wrap, coloured weights and dampers; these won't improve the performance of your setup but they'll certainly make you stand out on the shooting line.

Extenders are best suited to recurve bows; they are designed to change your bow's centre of gravity, by bringing the stabiliser mounting point forward. The forces and energy produced by a compound bow coupled with a heavy stabiliser setup will prove to be too much for most extenders, so try and avoid using one if at all possible.

The stabiliser market is huge and there is enormous choice available when it comes to size, weight, material and price. Ideally we'd like to find one that fulfils all three purposes of a stabiliser, but the one you choose will be highly dependent on you and the bow you shoot.

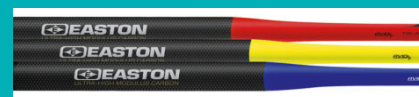
Our size, shape and strength is unique to us, this means that we will all put our own unique set of forces onto a bow when we shoot it, so a stabiliser set-up that works for one archer will not necessarily work for another. ☺

## HOW MUCH? THREE SETUPS FOR THREE BUDGETS

A stabiliser is often the last item we budget for when we buy archery equipment, but it can have a dramatic effect on how our bow performs. Therefore it's important to choose a stabiliser of high quality and design. Always try and borrow a stabiliser and shoot with it before you buy it. Whether you are a beginner or a seasoned pro, a stabiliser, like a bow, should be seen as a long-term investment.



For a reasonably priced but high quality product look at Mybo's Certo rods; long rods are priced at £109 and side bars at £64. Made with a 20mm high rigidity carbon shaft, solid aluminium mounting bushings, with silicone damper unit and solid steel weights included and an adjustable mounting thread that ensures the stabiliser graphics are always the right way up, the Certo rod should suit every level of compound archery.



For a mid-range product look at Easton's Contour CS rod, which features the most extreme stiffness to weight ratio Easton have ever developed for a stabiliser. Featuring aerospace-grade graphite fibre, the Contour CS offers superior hold and a wind-cheating slim profile for rock-solid aiming. Priced at around around £200 for a longrod.



For the top end of the market you won't find anything more cutting edge than Doinker's Elite Hero Ultra High Mod Stabiliser, but be prepared to pay upwards of £600 - £700 for a set in Europe. The .575" outside diameter rod has the ability to transfer residual energy from the shot efficiently to the end of the stabiliser. It holds over 20oz of weight with little or no flex, making it currently the most advanced stabiliser in the world.