



# THE SUSPENSION SPECIALIST

Professional Service and Suspension Set Up • After Market Sales • Mobile Service Van  
Proven Results 2009/2010: Hayward Suspension Bikes have brought home 12 National Championships  
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## WHEELS AND SUSPENSION.

Wheel mass in combination with the mass of the suspension components that move as the wheels move up and down is called “unsprung mass”

The bike, rider and everything else that is above the wheels is called “sprung mass”.

In order to design good suspension constructors try reducing wheel mass as much as possible as this enables us to control the movement and energy between the sprung and unsprung mass the most efficiently and with the best handling advantages.

All production bikes suspension damping is designed around their standard wheel weights. If you add or remove weight from the wheel this in turn disturbs this balance and handling is seriously compromised. Light wheels are ideally what you should aim for. Good suspension performance is maintained by keeping the wheels as light as possible.

What this means to you is that you should avoid EXTRA heavy duty tubes. I use heavy duty tubes (not extra heavy) as in SA with all the rocks it is necessary to use thicker tubes to avoid impact punctures! (I also know this costs me a little suspension performance!). Try to use as little slime as possible in your wheels. I use 200ml in each wheel and this works fine and at the same time avoids adding too much extra weight. Every gram extra you add suspension performance is compromised.

I recently fitted an extra heavy duty tube in the front as I could not get another at the time. I was amazed at the difference it made to the front. My fork suddenly felt too soft and I kept getting deflections on the front wheel that put me off my line on rocky sections. At first I thought it was me until I changed the tube for a medium thick one and my bike worked perfectly again.

I personally do not use mouses as I do not like the weight and the dead feel that they create. Many pro riders do use them, but they make sure they test with them in order to make suspension adjustments to compensate for their weight and feeling.

I much prefer to prepare my wheels carefully using a fairly thick tube, lots of baby powder to avoid friction between the tube and tire, and 200ml slime. I hardly ever have problems! Well prepared wheels with the least possible weight and correct pressure offer big handling advantages. I carry a 19 inch tube as a spare as this I can use in the front or rear wheel in an emergency during a race. Changing a tube is better than having a mouse collapsing. At least you can change it and carry on!

Another advantage for off road riding is using an 18 inch rear wheel. All enduro bikes have 18 inch standard. MX bikes come with a 19 inch standard. 19 inch tires are stiffer and reduce comfort due to the reduced tire wall size and the fact that the tire has less volume. If you are serious about suspension it is advisable to fit an 18 inch wheel. Comfort and traction in certain areas will then be noticeably better. Tire stiffness and pressure combine directly with the damping and set up of your suspension. Manufacturers of tires work hand in hand with constructors and suspension specialist to combine the tire stiffness and damping to offer the best possible performance. One cannot do without the other.

If you have added weight to your wheels, or changed from a 19 inch to 18 inch or visa versa, then I suggest you take some time on a familiar section of a course and try different click settings on both rebound and compression to see if you can fine tune your suspension to suit your wheels, riding style and set up.. Always only try one set of clicks at a time and go back again afterward to avoid too much confusion and conflicting information. By doing this you can get a feeling for what clicker influences what handling trait. By elimination and personal feel you may find you find a good compromise that suits you best. Always remember back influences front and front influences back, so be patient and trust your first impression of what you feel. If all else fails go back to standard as this is the default setting and most the time the safest place to be. I believe it is excellent to try things yourself in order to understand your bike. At least you can go back to standard if lost, so it is pretty safe and fool proof.

**Good luck!**