



# THE SUSPENSION SPECIALIST



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- ★ Professional Service and Suspension Set-up
- ★ Official Distributor of Fox Racing Shox
- ★ After Market Sales
- ★ Mobile Service Van
- ★ Consulting

## COMMON SETUP MISTAKES

I have noticed many common problems with bikes I work on. Some are very obvious to me, but I guess not realised by many riders, so I would like to point some out to you. If you weigh more than 90kg or less than 70kg you need to change springs both front and back. I see many bikes with rear spring changed and fronts standard or vice versa. This is bad! Trying to set rider sag if you are heavy and do not change springs also causes problems as explained below.

Remember, springs are responsible for the balance of the bike front to back and correct balance is critical. Changing only one spring messes up the balance totally. When unbalanced, the carefully designed geometry and dynamics of the bike change and the bike and suspension cannot function as they should. Bikes with long travel suspension i.e. dirt bikes are especially prone to this. Below are some examples and indicators of balance being out.

If the bike is lower in the front and higher at the rear, you will experience headshake, instability and over steer.

If the bike is higher in the front and lower at the rear then you have the opposite, under steer in corners and the bike will not turn at all well.

Another serious mistake that I see often concerns shock spring preload. I see many heavier riders preload the standard shock spring way too much. They do this to try and achieve the correct rider sag suggested in manuals! This is very bad because the static sag (amount the bike settles under its own weight) is then way too little. Static sag is very important and if less than 2,5cm you get terrible handling problems. You need sufficient static sag! Somewhere between 2.5 and 4 cm is acceptable.

**NB Too little static sag when the rider sag is correct indicates a too soft spring.**

**Too much static sag when rider sag is correct indicates a too hard spring.**

Important to remember is that by adding preload to your shock spring you cannot make the spring harder, you can only change the bikes balance and the spring still remains a soft spring. That's why we get harder springs. Preload is no cure for soft springs!

What I am trying to stress here is that springs are a major part of bike and suspension function, and damping is another area completely. It makes no sense trying to adjust clickers or making changes to the suspension damping until the springs are correct and the bike is balanced properly. Once this is done then you can worry about damping, set up changes and fine tuning.