

Adjusting Hagon 340 Nitro Shocks.

Adjusting Hagon Nitro Shocks Correctly, I am no expert (sure there will be someone to pick holes in this) but have had a severe learning curve of the last few weeks. And from My discussion with others on this subject I am quite sure a lot of us may have been doing it wrong in the past. This explanation is going get a bit long winded. Its 10 Months since I fitted the Nitro's with as supplied 35Kg/cm springs which were streets away from the Originals and the Ikons and Boy Oh Boy how things have change and I have learnt that you're never too old to learn when you speak to the right people. And in this case it has been direct with Hagon UK, in fact under guidance and instruction from Martin Hagon who has been absolutely tremendous and patient in helping me sort the problem out. (The Australian Hagon Agent (who was in Victoria is no longer is the agent so you only have one place to go at present) When thinking about or contemplating shocks you have to get things right and speak the right "Suspension Speak Language" or it will cost you a lot of heartache and pain and lots of \$'s.

The following statements are correct and were confirmed by the Ex Australian Agent and Hagon UK.

1: The Complete Swing Arm Rear End (as it is fitted with twin shocks) can be treated as one unit.

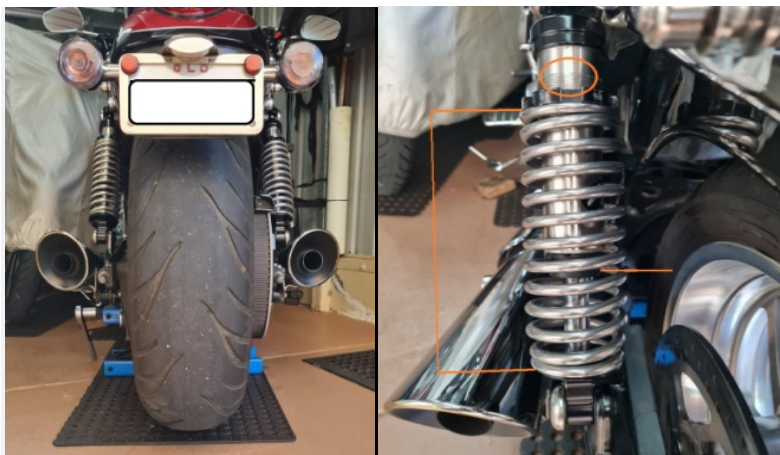
eg, a) You can have different Spring Ratings (why you would do this one wonders) side to side and they will even each other out, You can have different Spring Tension Settings side to side and they will even each other out. You can have different Dampening Settings side to side and they will even each other out. So there is a certain amount of leeway if you haven't got side for side EXACTLY the same.

2: The Black Bump Rubber on the Shock Shaft serves 2 purposes, The first and most important is as an indicator to indicate where and how much of the shock you are actually using, its second purpose is a tiny bit of compression cushioning if and when you bottom out. You are better off setting the bike up so you keep away from the latter scenario.

3: The Springs are **Constant Rate Springs** and are made in various load ratings from 35kg/cm to 30kg/cm to 26Kg/cm, to 23Kg/cm, to 20kg/cm to 18kg/cm and all these springs may have a very slight variation of a few % between each other, The Hagon 340 Nitros springs have a free length (out of the box of 225mm). You in consultation with the Supplier need to ascertain what your gross weight is going to be, weigh it all and add it up, you need to know that number. (Include your riding Apparel, The Handbrake (if she comes along) and all the rest of the Stuff you carry behind you including loaded Panniers or Saddle bags) to settle on the most suitable rated spring. Otherwise you get unnecessarily pounded the crap out of you like I did on the initially supplied 35Kg/cm springs and not have an enjoyable ride, From what I have read it is not uncommon for the Nitro's to be supplied off the shelf (as mine were and I knew no better) with 35kg/cm springs. **Constant Rated Springs** means that 26Kg/cm is 26Kg/cm and that does not change No matter how much tension you apply of remove to or from it, The only difference the Spring Tension makes is actually the height of the rear of the bike and the area in which the Shock Absorber operates within the Shock, I.e. Less Tension = Less threads above the Castellated Tension Nut and the Shock will work in the lower in the range or area of the shock and give less room before it bottoms out. More Spring Tension = More Threads above the castellated nut and it lifts the bike slightly and move the bike upwards on the Shocks shaft and gives a bigger gap below which means it's less likely to bottom out. This can be monitored each time you do an adjustment by moving the Bump Rubber back up the shaft and monitoring in to see how far down the Shaft that the Shock cylinder moved it on the Shaft. Make sure you pick the normal type of road you ride so you get the right result and use the same section of road each time you test after changing any setting. No use doing you testing on Suburban Hot mix if you generally ride on Rural roads. It is the Spring Rating and Dampening that governs the degree of comfort that you feel.

3: Dampening works identically in both directions Down/Compression and Up/Rebound as the shock fluid passes through the one orifice in both directions, these 10 settings can be adjusted from Softest – to Harshst+. In My experience and testing the Harshst gives the Hardest Ride and the bump rubber moves less, The Softer Settings of 1 or 2 give a softer ride and allow the rubber to move more on the shaft. Remember the Spring Tension Setting also contributes.

The pictures below will depict how to measure what on the Hagon Nitro Shock absorber,



The Picture above to the **left** depicts the bike **MUST** be jacked up and the wheel free of the ground so the spring is unladen.

The Picture to the **right** has three markings on it,

1: Horizontal line on the RHS depicting the Bump Rubber inside the Spring Coil, which can be moved up and down with screwdriver. if this rubber keeps slipping down lightly tie a small zip tie under the bump rubber.

2: The circle at the Top depicts the number of exposed threads above the castellated adjusting nut, these can easily be counted by utilizing a fine screwdriver and counting the screw thread indentations, mine is 8.5/9

3: The other two lines out the LHS of the spring that indicates the "Fitted Length of the Spring" which is measured with no load like the explained in the left hand picture. mine is at present 204-5mm

When you have adjusted the Spring Tension to the desired Tension / Height and you lower the bike down onto the ground, the Fitted Spring Length Measurement will change and that is "Bike Sag" and in my experience it changes or closes up by about 17mm. There are plenty of videos around about setting "Rider Sag" which is about 1/3rd of 30% of travel. That setting is up to each and every different rider, but if you get the Fitted Length Tension and the Shock working in the right area the Rider Sag will pretty well be accounted for.

My combine weight with everything I have away on 2 week LDR's is about 150kgs giving a gross bike weight of 360kgs, My settings are and will initially be with the 20Kg/cm springs, A Fitted Spring Length of 200mm which gives 9.5 to 10 threads above the castellated nut and a Dampening setting in the range of 1 or 2.

I have gone from the absolute pounding of 35's to less pounding and a somewhat tolerable ride with 26's to reasonably comfortable ride on 23's and am about to go to 20's to hopefully get **my** desired smooth ride. Again the degree of rider comfort is up to each and every individual rider.



Another hint is if you value your hands and to make adjusting heaps easier is to extend the Hagon Spring Adjusting Spanner, and apply some silicon spray to the Adjusting thread and spray some between the Castellations on the adjusting nut to get at the top surface of the spring and make it easier to adjust.

I hope this information clears up some of the mystique about suspensions as My experience is that it really takes some good advice and deep thinking and a heap of trial and error testing to get you mind around this shit.