



# PEP ZERO PRE-LOAD (ZPS) SHOCK SET UP. & BASIC ADJUSTMENT INSTRUCTIONS

**Please read this all the way through before making any adjustments, especially the section at the end regarding maintenance etc.**

Your PEP shocks if you have purchased them new will come with a basic setting from the factory but as all tracks are different and track conditions change on the day you may need to make adjustments to improve your handling. Unlike many other types of ATV suspension PEP shocks are incredibly finely tuned, your shocks were custom made for you and your machine only, therefore the smallest adjustment can make a huge difference especially if you do not know what you are adjusting. Here is a set of easy to follow instructions that will help you achieve the best from your suspension, use these together with the diagrams provided to make all your adjustments.

## 1. Ride Height

Ride Height adjustment **MUST** be made with rider on machine sitting forward on the seat **WITH** race gear on.

Make sure your ATV is on reasonably level ground *i.e.* in the pits and have the rider on *machine* as above, also very importantly check your tyre pressures, rears need to be between 7-12psi and fronts 10-14psi depending on rider weight. Ideally for U.K. MX tracks you want to be aiming for approx. 6 3/4" (172mm) of clearance. The clearance that I am referring to is from the ground to the bottom of the frame rails in front of the foot pegs and 6 7/8" (175mm) from the bottom of the frame to the ground below the centre of the crankshaft for most tracks for first practice. You can adjust up or down from there depending on track conditions. Slower smooth and good traction tracks you can lower, for faster rutted rough bottom out tracks and poor traction conditions you can raise. With a 5mm Allen key undo the bolt located in the Ride Height adjuster on the rear shock, this is the adjuster at the very top of the shock *i.e.* the one directly above the "skinny ZPS spring". By turning the adjuster back up the shock body you will lower your ride height and increase the ZPS gap, turn the adjuster the opposite way *i.e.* back down the body you will increase your ride height but decrease your ZPS gap.

Your front shocks adjust the same way however the top seat is held up by a cir-clip so you need lift the front of the machine up to take the pressure off the springs and carefully lift the clip out of its present position and either move it up or down depending on where you are trying to get your ride height.

One thing worth mentioning here is if you are racing in deep sandy conditions or if you are a XC rider racing on a track that has a lot of obstacles you need to ride over *i.e.* tree stumps etc. then you may need to override the ZPS function of the shock and adjust the shock so it is pre-loading the suspension, what I mean here is you want to lift the ride height so much that you are screwing the top adjuster right down on the rear and dropping the clip right down on the fronts until you think your happy with the ride height. The opposite would apply if you were running on say a very hard packed fairly smooth track, here you would be able to sacrifice some of your ride height to gain faster cornering speed. Make sure you re-tighten the Allen screw after adjustment on the rear shock.

## 2 firm or Soft

Ok so you've got your ride height set the next thing you need to know is how to adjust the feel of the shocks i.e. soften or firm them up. If during practice you think you need to firm the back shock up then this is achieved by adjusting the centre crossover ring, that's the adjuster that's on the body between the top & main spring, it has an 1/8 Allen grub screw in it. What you are doing here is called adjusting the crossover gap and setting how much work each of these springs actually does, the gap is measured from the bottom of the crossover ring to the top of the "go between" (refer to the rear ZPS adjustment diagram, the alloy sleeve that holds the main and top spring apart). This gap generally wants to be somewhere between 5 – 10mm, 5mm being the firmest and 10mm the softest, i.e. this measurement needs to be made with the quad on level ground with the rider sitting forward on the seat. You can achieve the same adjustment on the front shocks by adding or removing crossover rings in 3mm increments, refer to the front ZPS adjustment diagram sheet, adding will firm and removing will soften, but for the most it's the rear you will need to alter. Make sure you re-tighten the Allen screw after adjustment of the rear shock.

## 3 Compression

Your shocks generally will have come with the compression adjuster set at 4, you may want to increase this if you are encountering a bottoming out feel, sometimes you can get this hitting the face of a particularly steep jump or after a very hard landing, care should be taken here as often the bottoming out you are feeling is caused by the ride height being too low and it's actually the chassis hitting the ground, also please check your tyre pressures as that can also be part of the problem, depending on what tyres you are using, rear's need to be between 7-12psi and fronts 10-16psi. The best thing to do here is experiment with the pressures depending on your rider and vehicle weight, also remember if you're running a run flat system such as "Tire Balls" or "Tyre Johny's" you can run at much lower pressures if your competing in XC, don't rely on using the compression setting to prevent the frame hitting the ground, the tyre pressure controls the ground clearance when bottomed. All PEP shocks are designed to have 1.5" of ground clearance when fully bottomed, therefore frame drag occurs when the tyre is under inflated.

## 4 Rebound

I'm not going to advise too much on re-bounce settings as it's better left alone at the factory setting, if you feel the shock needs re-bounce adjustment then experiment a little but always remember where your starting point is and count how many clicks you change it. Re-bounce is what it says it is, by turning it in (right hand thread) you are slowing up the return process and the other way you are speeding up the response, ideally the rebound keeps the wheels on the ground. If too slow the wheels skip over the ground, if too fast the chassis is over active and wallows around, in front it won't hold the inside of turns it will push to the outside. If the rear rebound is too fast it will kick up and lose traction both forward and turning.

## 5 Maintenance, Wear & Tear etc.

Look after your suspension and it will serve you well, abuse and neglect it then you will run into problems, always clean your shocks thoroughly but don't cover them in WD 40 or similar as this will only make grit and dirt stick to them and speed up the wear process, remember to slide the bump stops up the shaft & clean all the dirt out, if you don't then you could find yourself having to replace the shaft as all the mud trapped there will corrode into it, also always make sure none of the Allen bolts are coming loose. If you ride regularly then have your suspension serviced at least once a year, in some cases twice is recommended. If any leaks appear i.e. oil from the seals then address this immediately otherwise it could lead to a big repair bill, always use PEP shock covers up front as they will keep out much of the dirt. I cannot stress how important it is to make sure you're a-arm and swing arm pivot bushes etc. are well maintained and not sticking, to check push down on front bumper half an inch, if it stays down it's stuck, do exactly the same with the rear, well maintained suspension should react immediately with no sticking. This is very important, your suspension cannot function correctly with poorly maintained a-arm and swing arm pivot points, if it's stuck replace it using a good quality repair kit, PEP recommends OEM or Pivot Works linkage kits, the Pivot Works kits are very good and often better priced than the OEM product.