



## **User Instructions**

Congratulations on your purchase of an ASV Solo Sag Scale, the world's first sag scale you can use to measure your off-road motorcycle's rear suspension sag without the assistance of another person and without the need to record or calculate numbers to figure out the measurement!

Use your Solo Sag Scale regularly to ensure that your rear shock spring setting is correct, as the rear shock spring rate will change with time and usage. A correct rear shock spring setting is critical for optimum suspension performance. Checking and setting your sag before each ride or race day is highly recommended by most suspension tuners.

**There are two types of suspension sag measurements: rider sag and static sag.**

Rider Sag is the distance the rear suspension compresses under the combined weight of the bike and rider (wearing a complete set of riding gear) from its fully extended (topped out, no load) position. If your rider sag is correct, your suspension is in the middle of its range, where it can handle the widest range of riding conditions without topping or bottoming out. For most riders, a rider sag of 95 to 110 mm, depending on personal preference, translates to the correct preload for dynamic conditions.

Static sag is the distance the suspension sags under the bike's weight alone, without a rider, from its fully extended position. Once you get your rider sag correct, the static sag will tell you whether you have the correct spring for your riding weight. Always check static sag after setting your rider sag, because the pre-load adjustment affects both.

**Assembly:** Before use, you must mount the rubber plug and bolt into your ASV Solo Sag Scale with a 4mm allen wrench. (Photo A) The case that came with your Solo Sag Scale is designed to house the scale with or without the rubber end plug attached. There is a hole in the case for the attached rubber plug to protrude through (Photo B).



**Lubrication:** Your ASV Solo Sag Scale has many moving parts that can bind at times if the points between the fender/sideplate and

rear axle are not perfectly straight. It is recommended that you spray a light lubricant like WD 40 on the silver slider area while the Solo Sag Scale is fully extended. This will allow the scale to move smoothly when attached to your bike.

## Using your Solo Sag Scale to measure rider sag:

**STEP 1:** Attach the ASV Solo Sag Scale to your bike by inserting the rubber plug into the left (drive side) hole in the axle bolt (Photo 1a), and then clamp the top of the scale to the side edge of your rear fender directly above the rear axle (Photo 1b). **IMPORTANT:** Tighten the knob as tight as you can tighten it. It will



not scratch your fender or graphics. Failing to tighten the clamp as much as possible will result in the Solo Sag Scale slipping off your rear fender.

KTMs and some other models of bikes may require the top clamp attaching to the side number plate as shown. Also, be sure to tighten the clamp knob as much as possible if mounting to your side plate (Photo 1c).



**STEP 2:** With all of your riding gear on, sit on the bike just above the foot pegs. Un-weight your legs and bounce up and down a few times to confirm that the suspension is compressed to the full extent under your body weight (Photo 2).



**STEP 3:** While keeping your full weight on the bike, reach back with your left hand and slide the red slider bar that says "SOLO" down until it stops. You have now "clocked" your sag scale to zero measurement with no numbers showing (Photo 3a & 3b).

**STEP 4:** Leaving the Solo Sag Scale in place, get off your bike and put it on your stand with

**3a**



the rear wheel up off the ground and your rear suspension fully extended. Your Solo Sag Scale will now be displaying the rider sag measurement (Photo 4a & 4b).

**3b**



**4a**



### **What the rider sag numbers mean:**

If your measurement is between 95 to 110mm, then your sag setting is good, although you may want to follow the advice of your suspension tuner if they have suggested a setting for you.

**4b**



If the number your ASV Solo Sag Scale shows is above 110mm, then you have too much sag and you need to increase the pre load of your shock by tightening the shock ring down on the spring. It is recommended that you tighten the ring by one rotation and then re-measure your sag. From there you will know if you need to tighten more or loosen to get to your desired setting.

If the number your ASV Solo Sag Scale shows is below 95mm, then you do not have enough sag and you need to decrease the pre load of your shock by loosening the shock ring up on the spring. It is recommended that you loosen the ring by one rotation and then re-measure your sag. From there you will know if you need to loosen more or tighten to get to your desired setting.

### **How to tighten or loosen the shock ring that preloads your spring:**



Directly above the spring on your rear shock are two lock rings that tighten up against each other. Both of these lock rings have notches in them to allow you to use a punch (or large flat screwdriver or small tire iron, etc.) to turn them. Using the punch

and a hammer, break the top lock ring loose by driving it counter clockwise with the punch and hammer (Photo 5). After you break the top lock ring loose, now you can move the lower lock ring with the punch & hammer clockwise to add preload (tighten spring) or counter clockwise to reduce preload (loosen spring). It is recommended that you move the ring by one rotation and then re-measure your sag. From there you will know if you need to loosen or tighten to get to your desired setting.

### **Using your Solo Sag Scale to measure static sag:**

**STEP 1:** Attach your ASV Solo Sag Scale to your motorcycle as explained earlier in step 1 of measuring rider sag. (Photo 1)



**STEP 2:** With the bike off the stand, with no rider on the bike, slide the red slider bar that says "SOLO" down until it stops. You have now "clocked" your sag scale to zero measurement with no numbers showing. (Photo 2)

**STEP 3:** Now, put your bike on your stand with the rear wheel off the ground and the rear suspension fully extended. Your Solo Sag Scale



is now displaying the static sag measurement. (photo 3) Your static sag measurement should be between 25 to 35mm when the correct rider sag is set.



**STEP 4:** If your static sag measurement is less than 25 mm with the correct rider sag, your spring is very likely to be too soft for your riding weight. If your static sag measurement is more than 35mm with the correct rider sag, your spring is very likely to be too stiff for your riding weight. If either of these are the case, you may require a different weight spring for your rear shock. It is highly recommended that you consult your local suspension specialist to help you to install the correct weight spring for you and your bike.

Thanks for purchasing an ASV Solo Sag Scale. If you have any further questions or require a recommendation of a suspension specialist in your area, please contact us at the address and phone number below.

Your ASV Solo Sag Scale should have also come with a warranty card. Please be sure to fill it out and mail it back to ASV to validate your warranty. If you did not receive a warranty card, please contact ASV Inventions at the address and phone number below.



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