

SUSPENSION SETUP AND TUNING NOTES

Lets see how many more people copy this revision of my guide and call it their own :), yes, it's a thing

Proper grammar does not apply below, sorry guys and gals, it is free advice

FRONT SAG (free sag, no rider)

PLACE SLED FLAT ON LEVEL GROUND AND NOT ON DOLLIES OR A LIFT OF ANY SORT. SET THE SPRINGS AT FULL SOFT IN THEIR ADJUSTER, #1 ON MOST HPG, OR BARELY LOOSE IN THE RETAINER ON THREADED BODIES. LIFT THE SLED OFF THE GROUND, SKIS JUST TOUCHING OR NO MORE THAN 1/4" GAP BENEATH SKI CARBIDE.

HAVE SOMEONE ELSE QUICKLY MEASURE FROM THE GROUND TO THE FIXED POINT OF INTEREST ON THE FRONT BUMPER. LET THE SLED DOWN EASY OR WITHOUT DROPPING HARD.

RE-MEASURE & SET SAG AS FOLLOWS

*2" FOR SEMI AGRESSIVE RIDERS, MORE PLUSH SETUP BUT BODY ROLL MAY OCCURR

*1" FOR VERY AGRESSIVE RIDERS , EXCELLENT FLAT CORNERING

*****tuning note below*****

IF YOU NEED TO RUN THE SPRINGS AT MAX PRELOAD FOR PROPER SAG YOU ARE A CANDIDATE FOR HEAVIER SPRINGS AND/OR PROPER VALVING SPRINGS AND SHOCK VALVING WORK TOGETHER FOR RIDE HEIGTH

**if you have the springs too soft you will blow thru the stroke and it will feel stiff, even though its actually way soft and bottoming hard and fast.

CENTER SHOCK PRELOAD/LIMITER STRAP

COMPRESSING THE TENDER SPRING IN ANY DUAL RATE SET-UP TOO FAR WILL CAUSE HARSHNESS ON THE WASHBOARD TERRAIN AS YOU HAVE NOW COLLAPSED THE TENDER SPRING AND NOW ARE RIDING THE MAIN SPRING

**tuning tip, a slightly stiff center shock feel here and there but not often is a good setup. You know that it will handle most anything else you throw at it!

****turn in just enough preload** so the spring stack is not rattlin' loose, moderate preload to start as a starting point. Going a few hand turns (3 to 5) at a time affects spring preload noticeably

**on motion (or any coupled) suspensions I feel it is best to run the limiter full loose otherwise you are reducing shock travel in an already short stroked shock. If you have to suck the limiter up to steer correctly then you have front shock issues (too long) or your skis/carbides need replacing

**on mountain sleds the limiter sucked in keeps the front down, loose lets you ski walk all over the place

**your center shock is the fulcrum point of the see saw sensation (weight transfer). Jacking the preload tight to lighten steering for aggressive skis ruins ride quality, having too loose for the most ski pressure causes easy bottoming. There is no best setup, best skis, etc...etc. However, running too aggressive skis, carbides forces you to make changes to ride quality to compensate for the excessive steering bite. I feel stud boy shapers are the best aggressive bars out there, the round bar version is also nice from them

**on most center shocks a little bit of preload softer or tighter on the center will make a noticeable difference in steering effort. SOFTER increases ski pressure, TIGHTER preload reduces it. SKI SPRING PRELOAD set real dam soft will increase steering effort, ski spring preload set real tight will relieve it somewhat but not alot. It's too soft of a ski spring preload that will cause heavy steering and a wallowing feeling. All that weight is falling onto to the skis, especially in the heavier 4 stroke machines

REAR FREE SAG & RIDER SAG

TO SET FREE SAG (no rider) THE MACHINE MUST BE FLAT ON THE GROUND WITH NO RIDER ON MACHINE. LIFT UP ON THE REAR BUMPER UNTIL IT LOCKS, MEASURE TO THE BUMPER FROM THE GROUND, LET GO. THE MACHINE SHOULD SAG NO MORE THAN 2" UNDER ITS OWN WEIGHT. IF IT GOES 3 OR 4 inches, GO UP 1 CLICK ON THE REAR TORSION SPRING ADJUSTER, REMEASURE. 1" SAG TO 2" IS GREAT!

NOW SIT ON THE MACHINE, THE MACHINE SHOULD SAG NO MORE THAN +4" OF YOUR INITIAL FULL LOCK MEASUREMENT. IF IT'S MORE THAN THAT THEN INCREASE SPRING PRELOAD TO ACHIEVE PROPER SAG WITH RIDER SITTING ON MACHINE.

****notes****

*more sag lightens skis, less rear sag (firmer) weights the skis A BIT

*too little sag will bottom hard, ride harsh and too firm a sag (none really) will ride rough

*set sag with tools, bags, gas caddy full if thats how you usually ride

***too firm a sag will kick straight up, too much sag will not rebound properly and pack up in the whoops, kick side to side**

****increase spring preload on torsions, coilover rear shock if in heavy wet snow, saddle bag trips, etc. beyond that garage spec you did when the rear skid was clean and dry**

COMPRESSION SHOCK CLICKER ADJUSTMENT TIPS

KYB PRO 40 and PRO 36 LARGE RED/BLACK KNOB INCLUDING ELKA STAGE #3 & 4 and EXIT X1 series and any other single knob for compression adjust

*going in 3 clicks at a time will noticeably stiffen and vice versa (loose, softer), compression, on the reservoir

FOX RC2, ELKA S5, double adjust and KYB hi and lo speed dual compression adjusters or any other shock with double comp adjust

*outer hex nut is high speed damping, not always vehicle speed but shaft speed. IN ½ turn at a time will stiffen high speed for quick hard large type hits, mashing 3' moguls at 70 mph

*inner flat head adjuster is slow speed damping. Usually smaller softer hits, soft crash downs, weight transfer, cornering, seat of pants in long rollers

FOX QS3

***position 1 is softest, position 2 a good amount firmer, position 3 is rock hard, like i want my abs to be :) but never will**

******best to start with compressions full soft and work IN as you go, ON THE TRAIL as in your garage with your BRO's wont do much**

REBOUND CLICKER ADJUSTING

Rebound clickers are always found at the shaft end of the shock, not the ressie. Rebound is how fast the shock returns, bounces back. Too slow and it will pack up, ride harsh in whoops, less travel in the whoops. Too fast and it will be a trampoline like an old ford with no suspension left in it (i drive a dodge, so whatever)

*small red knob or flat head, or any flavor of adjuster at shaft end of shock is rebound. IN, will SLOW rebound, out, looser will speed rebound on all sled shock applications

****best to start half way in rebound clicker range. All shocks vary in how many clicks available so turn the rebound IN, stiffer until it gently stops. Back all the way out to full fast, full soft. How many clicks did you count? Divide by 2, turn back in to that point, start there

TROUBLESHOOTING TIPS IN NO CERTAIN ORDER

Rides rough on rail road grades, studder bumps

*check rear sag, adjust rebound if applicable, adjust coupling block to 1 or 2.

Coupler 3 and 4 on skidoo makes the skid ride like crap and applys too much ski pressure, less rear arm travel

*limiter strap LOOSE please, this affects ride quality

Front dives in corners

*add spring preload

Bottoms hard on any shock location

*add spring

Bottoms softly

*add compression clicker, 3 clicks

Rebounds too fast in rear but compresses nicely, trampoline type feeling

*go IN on applicable shock 3 clicks to SLOW rebound

Rear end rebounds too slow / front end too slow

*loosen applicable shock rebound 3 to 5 clicks to make a major differance, speed up rebound

Or

*add torsion spring, ski spring preload if the sag is excessive, you have to find the balance between a shock issue and a spring issue

DARTING-----what a loaded subject.....

*check carbides, bent?

*check ski alignment, .125 out on both sides of toe is normal

*too much ski pressure, tighten center preload

*too aggressive of a ski

*coupler block on highest setting, Not good, goto #1 (softest)

PUSHING

*too little carbide, worn carbide, worn skis

*too much rear sag

*too much center shock preload

*too much beer

*poor front end geometry, like the SKIDOO G4 XRS for most people. Too tall of a front end makes the sled too level, no rake. Weight transfers back, front gets lighter, sled steers like crap. We have a fix for this, please inquire within

#1 rule of mine is this when troubleshooting your ride

Soft bottoming always goto compression clickers, hard bottoming, i mean hard and consistent, goto spring preload. Shocks and springs work in tandem for ride heighth. A dead shock will cause sag and a shock without oil will be unsafe and trampoline you pretty good in the right condition

Disclaimer, PLEASE READ

We here at Monster performance suspension greatly appreciate your business. We love the sport as much as you do, so we feel your pain, whether it is in your ass or your ???????

We all need to realize that we are riding machines that cannot be perfect in every single condition. The goal is to be predictable and compliant in all conditions. This builds rider confidence and speed. If you have the fancy knobs and shocks, USE THEM. All sleds have some sort of spring preload adjustment, limiter straps, etc. By spending some time adjusting what you can , you may really make the ride better and more enjoyable!

Also, rider body position, throttle position, style, greatly affects ride quality. Sometimes it isn't always the machine that needs to get better it is the rider, so be humble and realize this snowmobiling money pit is all for fun, right?

Current and former customers may EMAIL FOR ANY TUNING NEEDS, DO NOT CALL THE SHOP PLEASE

***include ride complaints and what you have tried**

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