

# SUSPENSION SET UP INSTRUCTIONS

## FRONT SAG

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 AND 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. REMEASURE & SET SAG AS FOLLOWS

-2" FOR SEMI AGGRESSIVE RIDERS, MORE PLUSH SETUP BUT BODY ROLL MAY OCCUR  
-1" FOR VERY AGGRESSIVE RIDERS, EXCELLENT FLAT CORNERING

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

\*\*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. TUNING NOTE!

## CENTER SAG/LIMITER STRAP

THE TAIL OF THE MACHINE MUST BE ON A SUITABLE SAFE STAND WITH NO WEIGHT ON THE REAR SUSPENSION OR TRACK.

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 feel here and there but not often is a good setup. You know that it will handle most anything else you throw at it!

TIGHTEN/LOOSEN THE SPRING PRELOAD UNTIL YOU ARE ABLE TO MOVE THE SPRING WITHIN ITS RETAINER, OR ADJUSTER, WITH MODERATE FORCE. IF ITS VERY HARD TO GET THE SPRING TO SLIP BY HAND THE PRELOAD IS TOO TIGHT. IF ITS VERY EASY ITS TOO LOOSE. THIS IS YOUR BASELINE RELATIVE TO YOUR **LIMITER STRAP** SETTING

LIMITER STRAP SETTINGS MUST BE ADJUSTED WITH CARE. THIS ALONE WILL CAUSE TOO MUCH OR TOO LITTLE SKI PRESSURE RESULTING IN LOSS OF CONTROL OF THE MACHINE OR TOO HEAVY STEERING. IF RUNNING THE FOLLOWING SKIS I SUGGEST THE FOLLOWING BASELINES. CASUAL RIDERS SHOULD NOT RUN SKIS OR CARBIDES THAT ARE VERY HARD TO TURN

-PRECISIONS ON REV- 2 HOLES SHOWING BELOW THE LIMITER ADJUSTER BOLT  
-PRECISIONS ON A ZX OR CAT, POLARIS, YAMAHA -3 HOLES SHOWING BELOW THE ADJUSTER BOLT  
-BRP FLEX SKIS/CA ADX'S ON REV 3 HOLES SHOWING BELOW THE ADJUSTER BOLT  
-BRP FLEX SKIS/CA ADX'S ON ZX, CAT, POLARIS OR YAMAHA 3 HOLES SHOWING BELOW THE ADJUSTER BOLT  
-AGGRESSIVE AFTERMARKET SKIS LIKE CA RAZORS, OUTLAWS RUN 3 HOLES, THESE SKIS ARE GREAT BUT HARD TO TURN IN THE HARDPACK TWISTIES  
-XP SET LIMITERS WITH MODERATE SLACK FRONT TO BACK, APPROXIMATELY 1". LESS GIVES MORE SKI PRESSURE, LESS SHOCK TRAVEL THOUGH!

THESE ARE ALL GOOD BASELINES BUT NOT THE RULE. RIDER WIEGHT, STUDS, ETC ALL PLAY A ROLE IN YOUR STEERING.

## REAR STATIC & RIDER SAG

TO SET STATIC SAG 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, 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 MEASUREMENT. IF IT'S MORE THAN THAT THEN INCREASE SPRING PRELOAD TO ACHIEVE PROPER SAG **WITH RIDER SITTING ON MACHINE.**

## **TUNING NOTES OF INTEREST**

**TOO MUCH SKI SPRING PRELOAD** WILL CREATE A HARSH RIDE THROUGH THE HANDLEBARS, TOO LITTLE AND BODY ROLL WILL OCCUR

**TOO MUCH CENTER SPRING PRELOAD** AND THE RIDE WILL BE HARSH IN YOUR MIDSECTION, TOO LITTLE AND THE FRONT END WILL BE HEAVY TO STEER AND THE SHOCK MAY BOTTOM OUT. THINK OF YOUR CENTER SHOCK AS THE FULCRUM POINT OF A SEESAW.

**TOO MUCH REAR TORSION PRELOAD** AND THE RIDE WILL BUCK YOU OFF THE SEAT! TOO LITTLE AND YOU WILL BLOW THROUGH THE AVAILABLE TRAVEL IN YOUR SUSPENSION

"FAT" SIDE DOWN (#1 facing rear bumper on rail) ON THE REAR COUPLERS ON SKIDOO SC2,3,4,5 GIVES MORE SKI LIFT AND FULL REAR TRAVEL, LESS SKI PRESSURE. "FAT" SIDE FACING THE REAR OF THE SLED (#4) OR PARALLEL TO THE RAILS ADDS SKI PRESSURE BUT REDUCES TRAVEL IN THE REAR SUSPENSION WHICH MAY SOUND BAD BUT IN CERTAIN CONDITIONS IS FAVORABLE. AVOID PULLING THE LIMITER STRAP TO 1 HOLE SHOWING BELOW THE ADJUSTER BOLT. YOU HAVE NOW REDUCED THE TRAVEL IN THE CENTER SHOCK BY 33%! NOT GOOD! IF MORE SKI PRESSURE IS NEEDED TRY ADDING 1/4" THREADS OR 1 CLICK OF CENTER SPRING ADJUSTMENT AS A TIME

**AFTER EACH ADJUSTMENT ABOVE RECHECK OTHER ADJUSTMENTS PREVIOUSLY MADE, SOMETIMES GEOMETRY CHANGES WHEN ADJUSTING THE REAR SUSPENSION**

SOME SHOCKS AFTER SERVICE MAY APPEAR TO BE MOIST. THIS IS RESIDUAL OIL TRAPPED IN THE LARGE BODY SLEEVES OF SOME SHOCKS THAT IS HARD FOR US TO BLOW CLEAN. THE OIL WEEPS OUT ON ITS OWN AND EVENTUALLY CLEANS UP

## **CLICKER SHOCK ADJUSTMENT TIPS**

ALWAYS SET UP YOUR SUSPENSION BEFORE ADJUSTING ANY CLICKER OR COMPRESSION, REBOUND ADJUSTER. WHEN YOU RECEIVE YOUR SHOCKS BACK FROM SERVICE THE CLICKERS ARE ALWAYS SET FULL SOFT. LEAVE THEM THERE UNTIL YOU RIDE THE SLED FIRST, THIS WAY YOU HAVE YOUR BASELINE. ADJUSTING YOUR CLICKERS ON YOUR GARAGE FLOOR DO NOTHING AS THE CLICKERS ARE SHAFT SPEED SENSITIVE.

## **ADJUST AS FOLLOWS**

ON A **C36/PRO40** SKIDOO RACE OR CONSUMER SHOCK WHICH HAVE 2 COMPRESSION ADJUSTMENTS AVAILABLE, TUNE AS FOLLOWS

\*\* 17MM RED NUT AND A SMALL BRASS FLAT HEAD ADJUSTER OR RED KNURLED KNOB\*\*

ADJUST RED NUT FOR HIGH SPEED PISTON VELOCITY HITS AS IN HARD SMALL BUMPS AT A HIGH RATE OF SPEED OR MASHING MOGULS, DEEP SUDDEN G-OUTS. GO 1/2 TURN PER STAGE, LESS DOES NOTHING

ADJUST THE BRASS FLAT HEAD SCREW/KNOB FOR THE SLOW SPEED PISTON VELOCITY AS IN SIT DOWN PLUSHNESS AND LONG SLOW ROLLERS. WHEN YOU TURN THE RED NUT THE BRASS SCREW WILL TURN TOO. DON'T WORRY, THEY ARE SEPARATE WITHIN THE CLICKER. GO 4 CLICKS PER STAGE, LESS DOES NOTHING. SLOW SPEED DAMPENING ALSO AFFECTS WEIGHT TRANSFER/HOLESHOT

**SINGLE STAGE PRO 40 KNOBS** ADJUST THE ENTIRE FEEL OF THE SHOCK, NOT INDIVIDUALLY LIKE 11 AND OLDER, NOT AS GOOD! GO "IN" TO GO STIFFER AND "OUT" TO GO SOFTER

KNOB STYLE SINGLE COMPRESSION ADJUSTERS NUMBERED 1 THROUGH 8 USE #1 AS FULL SOFT AND #8 AS FULL HARD. GO 1 CLICK PER STAGE, 2 MAX.

ON MOST CUSTOM AXIS AND ZBROZ SHOCKS YOU HAVE 20 OR SO CLICKS. 2 CLICKS PER STAGE MAKES A DIFFERENCE ON THESE SHOCKS

REBOUND ADJUST CLICKER HPG FRONTS ARE ADJUSTED BY TURNING THE SCREW/KNOB. TURNING IN WILL SLOW THE REBOUND OF THE SHOCK AND STIFFEN THE SLOW SPEED COMPRESSION A BIT. GO NO MORE THAN 3 CLICKS PER STAGE

\*TOO FAST OF A REBOUND MAKES THE SLED "POGO-E" AND TOO SLOW OF A REBOUND STIFFENS THE HECK OUT OF THE SLOW SPEED COMPRESSION AND ALSO CAN CAUSE THE SHOCK TO "PACK UP" AND SWAP IN A SERIES OF WHOOPS

## **SHOCK INSTALLATION MUSTS**

-**ALL SKIDOO REAR/REAR RESEVOIR SHOCKS (excluding rMotion)** ARE MOUNTED SUCH THAT THE RESEVOIR IS BELOW THE MAIN SHOCK BODY AND THE SHAFT FACES "UP", rMotion is just the opposite, shaft faces down at ground, ressie still below body

\_all (that I have seen) cat, polaris and yamaha are the same, ressie below and shaft facing up

-ALL SINGLE BODY (MONOTUBE) SKI SHOCKS WE SELL ARE MOUNTED SO THAT THE SHAFT IS POINTED AT THE GROUND AND THE BODY OF THE SHOCK IS POINTING AT THE SKY

-ALL ZBROZ X1 AND XO CLICKER CENTER SHOCKS ARE MOUNTED WITH THE RESEVOIR LEFT SIDE AS SITTING ON THE MACHINE ON THE SC3/4/5. **ON SC4/5 SKIDS PLEASE CHECK THAT THE BOLT IN FRONT OF THE CENTER SHOCK ADJUSTER HOLDING THE OUTER IDLER ON THE RAIL IS ORIENTATED WITH THE NUT BEHIND THE WHEEL CAP AND THE HEAD OF THE BOLT FACING THE CENTER SHOCK ADJUSTER**

-ON SC4 SKIDS YOU MUST REMOVE THE 2 INNER IDLERS NEXT TO THE CENTER SHOCK AND PLACE THEM ON THE OUTSIDE OF THE RAILS

-NITROGEN PORTS ON SINGLE BODY REAR/REARS MUST FACE UP, NOT DOWN AND CENTER SINGLE BODY TYPE TOWARDS FRONT OF SLED. THE SHOCKS CAN EASILY BE INSTALLED 180\* THE WRONG WAY. THIS INSURES THERE WILL BE NO TRACK DEBRIS DAMAGE TO THE NITROGEN PORTS

**IF YOU HAVE ANY FURTHER QUESTIONS PLEASE EMAIL [IAN@MONSTERPERF.COM](mailto:IAN@MONSTERPERF.COM)  
WE THANK YOU SINCERELY FOR YOUR BUSINESS!**