



REV-XP 120" M-20 AIRWAVE 2012 PLATINUM SPEC SUSPENSION INSTRUCTIONS

TECHLINE (218)744-2107 **113011-10/24/12**

2012 PLATINUM SPEC 121" M-20 AIRWAVE INSTRUCTIONS: 2008-2012 REV-XP/ XR 120"

1. Remove stock suspension.
2. At front stock location, find rivets shown in photo #1 and grind flush.
3. On the RH side of sled locate the stock front arm hole in the tunnel. The upper hole of the rearward figure eight pattern in the RH front torque arm bracket will align with the front stock hole. Temporarily bolt into place. Measure down from top of tunnel **5.790" (147.2MM)** to the center of the front hole in T/A bracket, mark rear hole of t/a bracket and drill to 3/8". See Diagram #1. Photo #3 shows how front torque arm bracket will be positioned in tunnel. The aluminum shim stock is placed at the back of T/A brackets against the tunnel. See Photos #1, 2 & 3.
4. RH rear arm mounting plate (black plate). **NOTE:** Some REV-XP models can have the rear factory brackets left in place, some may have to be removed to fit our rear bracket. Using the provided steel template and the front torque arm temporarily bolted in place; align the 7/16" hole in one end of the template with the 7/16" hole in the front of the torque arm bracket. Slip a bolt through to hold in place. Align the 7/16" hole in the opposite end of the template with the 7/16" hole in the rear black mounting plate. Slip a bolt through to hold in place. Measure down from the top of tunnel **7.15" (181.7MM)** to the center of the 7/16" hole in rear arm mounting plate (black plate). Make sure the top of the plate is perfectly parallel with the top of the tunnel. Temporarily tape mounting plate into place. Center punch the top right 17/64" hole and the third from the right 17/64" hole in the black plate to the tunnel. Drill and temporarily mount plates through these holes in the tunnel. Using the mount plates as a drill guide drill at least two more 17/64" holes and the two 3/8" bolt hole as per instructions in Diagram #1. See Photos #4, 5 & 6.
5. Repeat steps 2 through 4 on the LH side of sled.
6. The rear black mount plates will mount to the rear arm first then be lifted up and bolted to the tunnel. Bolt the mount plates to the rear arm with the 7/16" bolt and lock washer provided. **While you torque the bolts to 70 ft-lbs you must keep the top of the plates parallel with each other from side to side. Make sure they are parallel with each other or you will have difficulty aligning them when bolting into the tunnel.**
7. The front torque arm brackets will mount to front arm using the 7/16" Allen head bolts and lock washers before the suspension is placed into sled. Lay front arm flat with torque arms flat on the floor. Hold down firmly to keep arm brackets parallel and torque to 70 ft-lbs. Use RED LOCTITE. After setting proper torque, recheck alignment and adjust if needed.
8. Use paper template to locate the air fitting. Air fitting will go through from outside of tunnel. See Photo#7 & 8.
9. Place suspension inside of track. Raise front arm and bolt into position. Raise rear arm with rear mount plates attached, align the 3/8" bolt holes and loosely install their nuts. Insert all of the 10-32 bolts before tighten them. Be certain no bolt or screw rubs directly on the track belting inside the tunnel. Attach front shock upper mount. Torque to 35-40 ft-lbs. **OPTIONAL STEP:** Removing front arm upper shock mount bolt and flipping the top of the shock and rear arm backwards. This makes it easier to insert assembly into track.
10. Proceed to set-up pages.
11. Adjust the limiter strap to a safe cornering ski pressure. This will vary from sled to sled and different rider preferences.
12. Track Adjustment-There should be at least 1/2"- of space between track and Hyphax **with no weight hanging from track.**

PHOTO #1

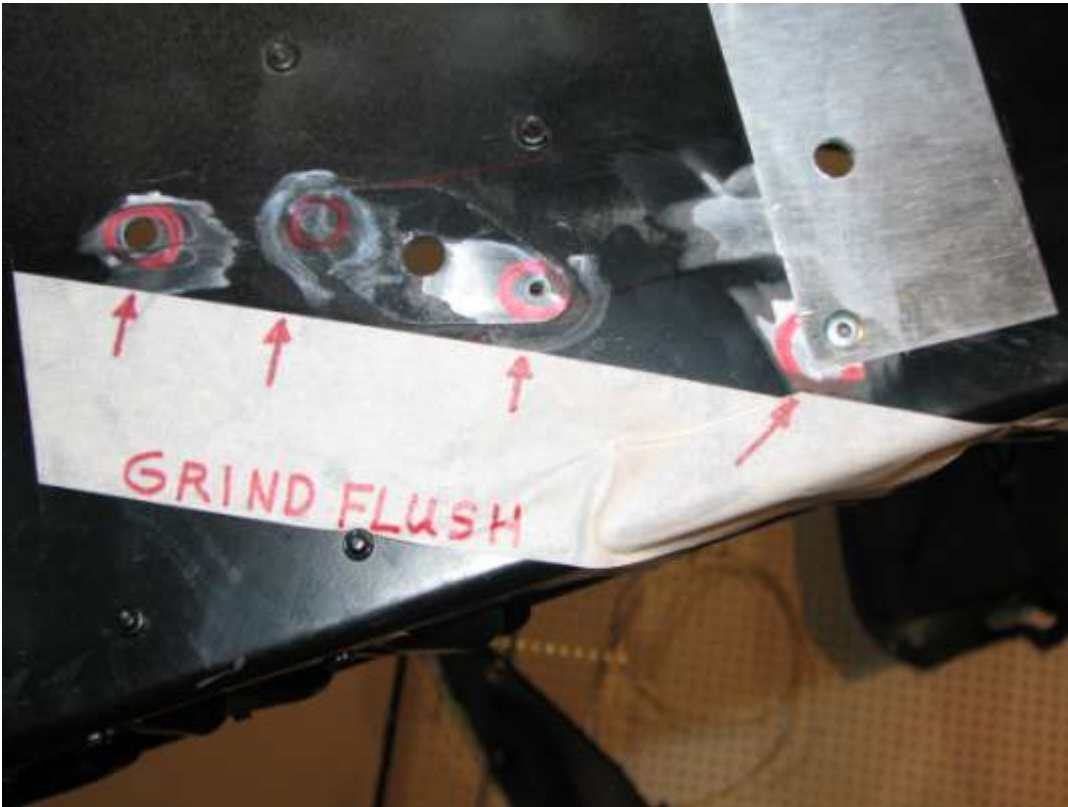


PHOTO #2

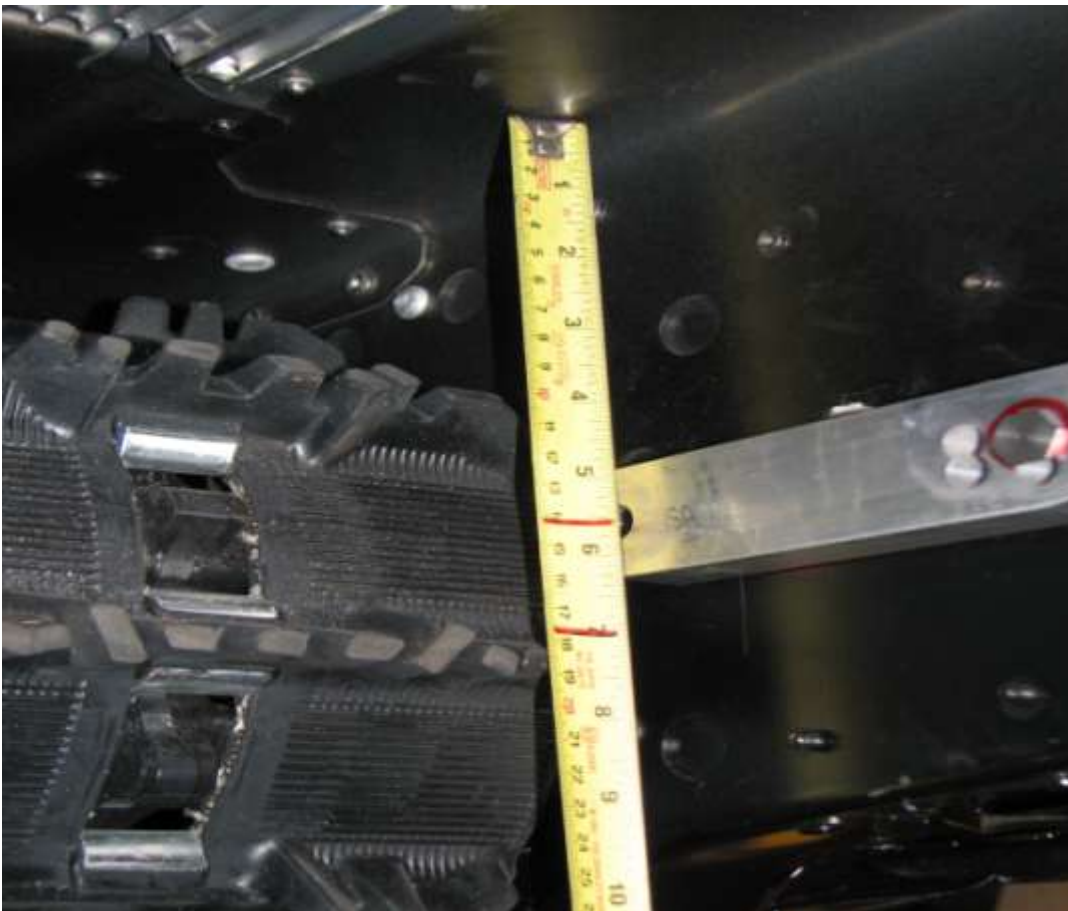


PHOTO #3



PHOTO#4



PHOTO #5

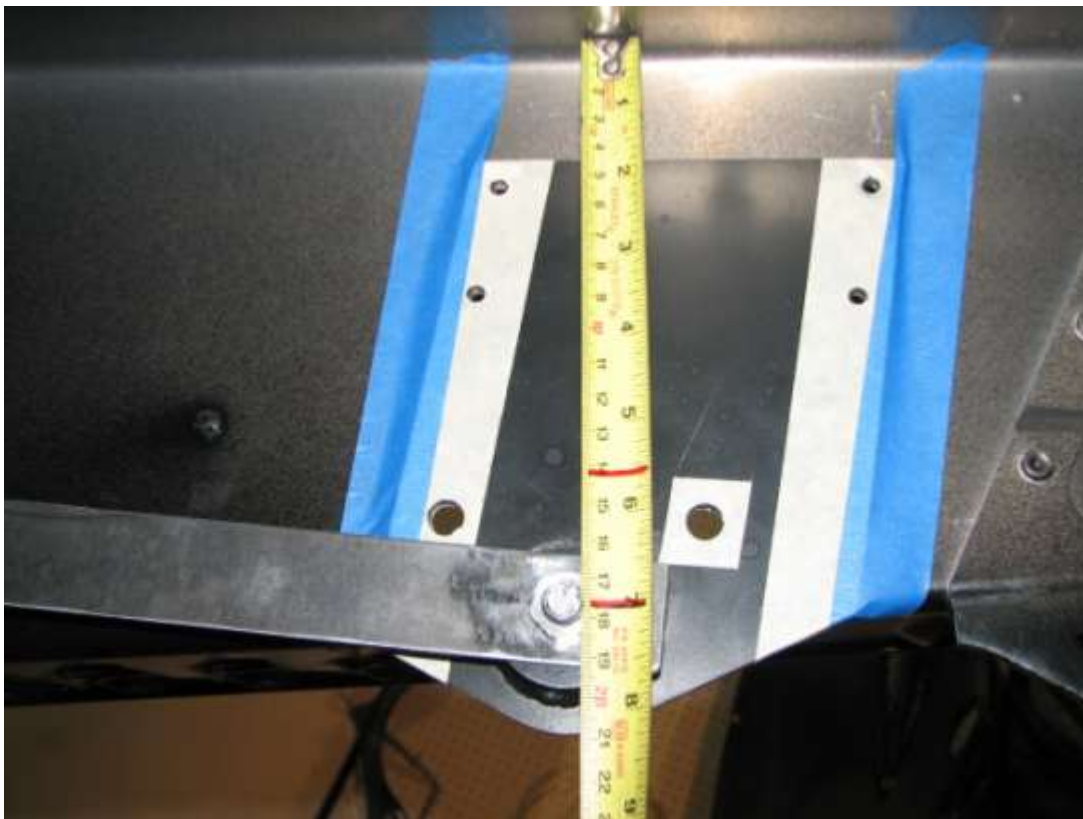


PHOTO #6



PHOTO #7

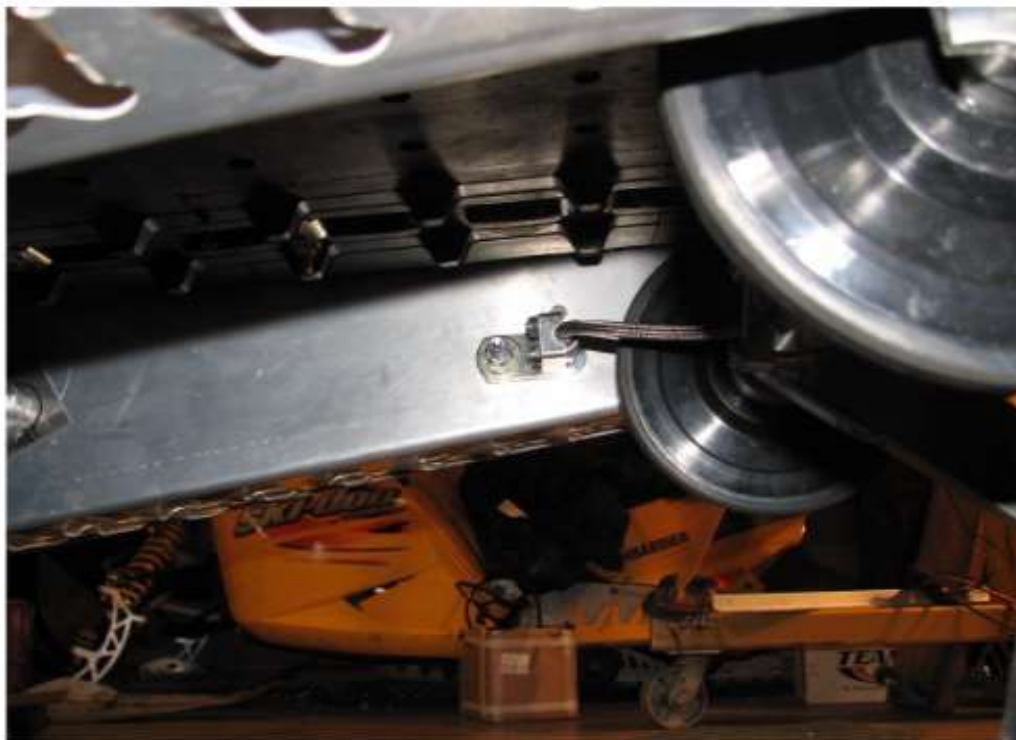


PHOTO #8



NOTE: THE LH AND RH REAR MOUNT PLATES MAY NEED TO BE TRIMMED FOR VARYING TUNNEL TAPER. TRIM THE REAR MOUNT PLATES ACROSS AT THE NOTCHES IN THE PLATES. SEE DRAWING BELOW.

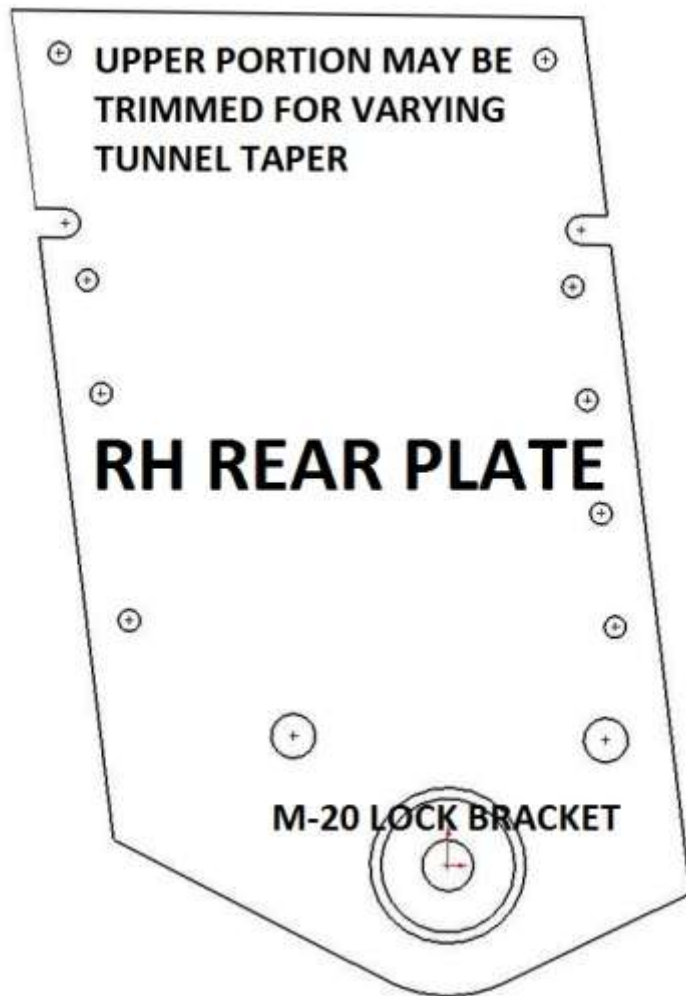
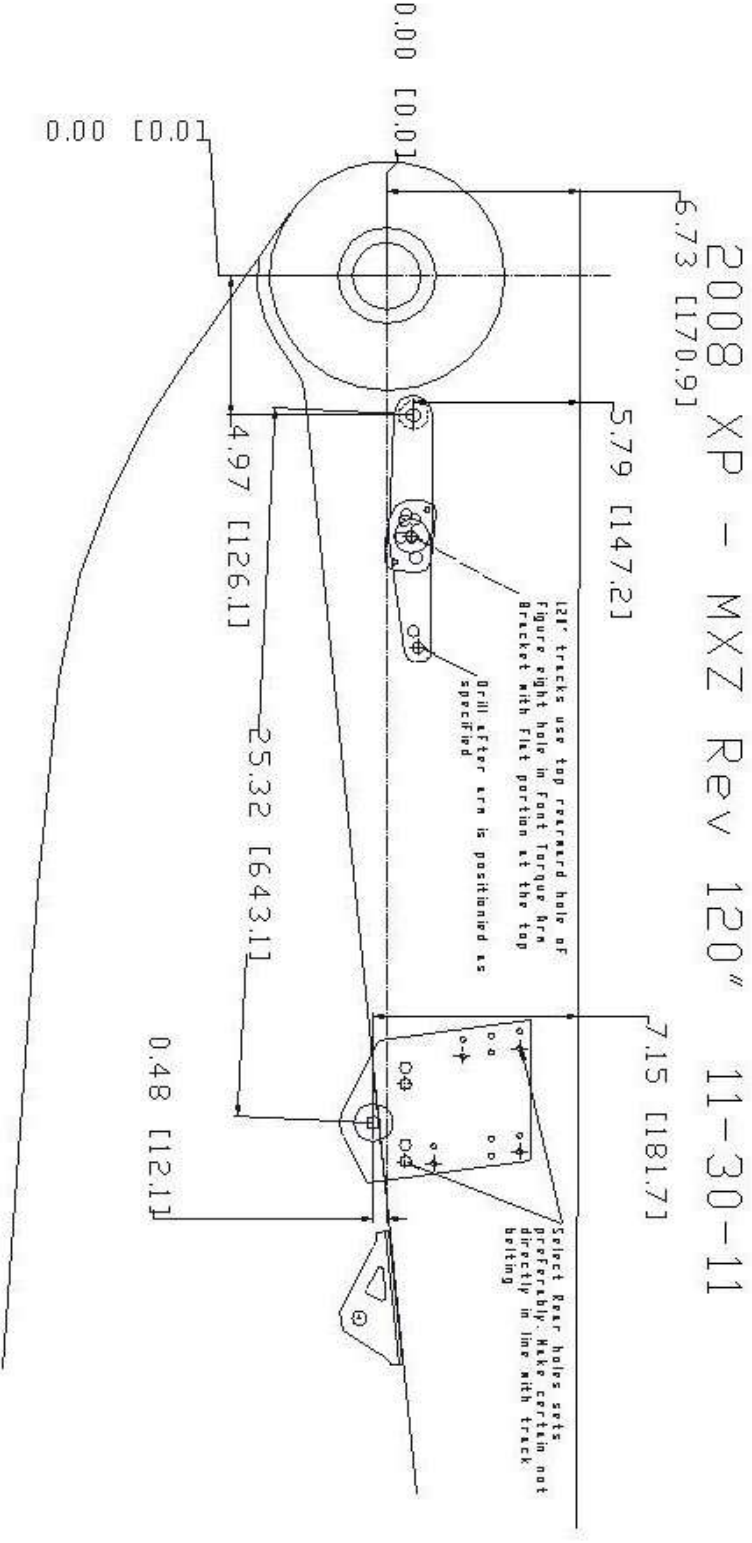


DIAGRAM #1





AIRWAVE INITIAL AIRSPRING FILL

TECHLINE (218)744-2107

1. The rear of sled must be supported when filling system with air.
2. Airspring must be in proper position for initial filling. Airspring must be in a column with bottom of Airspring rolled over the piston. See Photo #1 & #2.
3. Photo #3 & #4 show the improper position of airbag for filling with air. The Airspring **must not** be folded over, compressed or have the ring on bottom of piston exposed. See photo #3 & #4.
4. Proper position of Airspring is important to prevent failures.
5. **NOTE:** Do not use high pressure cleaning devices (car wash, pressure washer, etc.) on the AIRWAVE Suspension. High pressure water spray can damage the air springs.

PHOTO #1



PHOTO #2



PHOTO #3

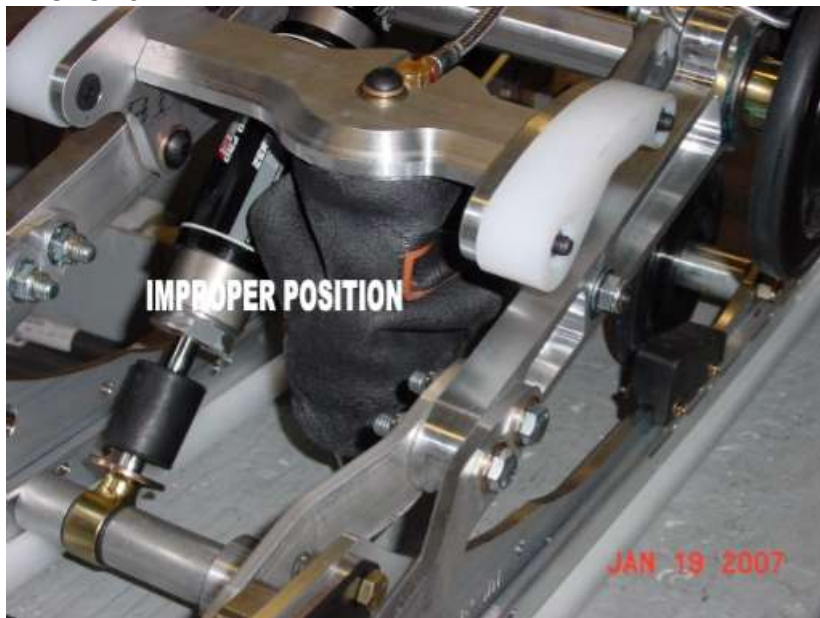
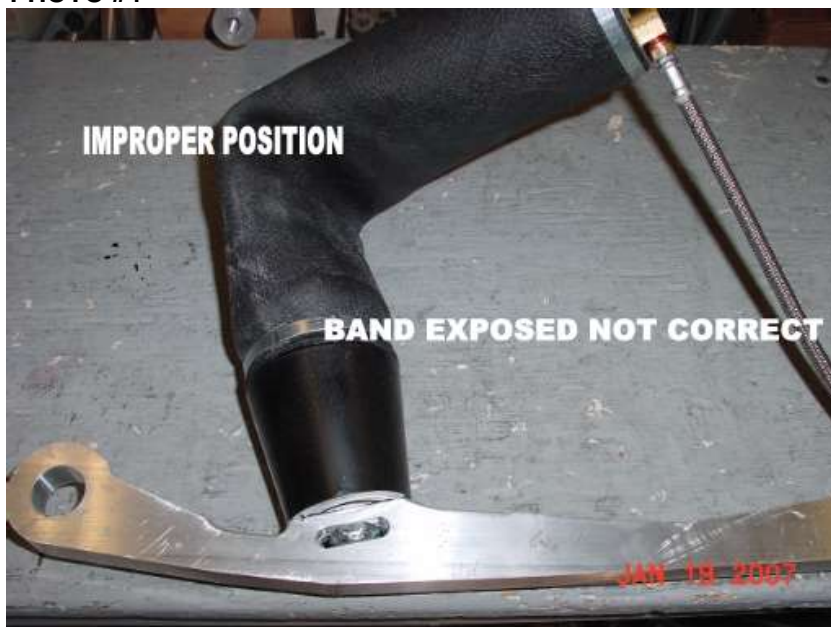


PHOTO #4





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AIRWAVE INITIAL SET-UP

REV-1 12/07/06

1. Please note that if your suspension is an Airwave Diamond with or without battery the needle on your Air-gauge should be vibrating while compressor operates. If it is not, then the compressor motor isn't turning. On sleds with batteries, please check for correct wiring installation.

On battery-less sleds it may be necessary to rev the sled's motor to just below clutch engagement to energize the compressor on low watt electrical systems. On such systems it may also help to shut the hand and thumb warmers off when making adjustments. If the gauge needle isn't vibrating when thumb input is made at the switch then the compressor isn't turning.

2. Please note that even though your sled's stock suspension may be advertised to have over 10" of rear travel it is likely that it has only 8-9 inches. To balance out the sleds it may be necessary to increase the ski shock preload to raise the front bumper by approximately 1.0 - 1.5 inches

3. Using either the onboard or a shop compressor fill the Air-spring until the suspension is at full extension (the point at which the rear shock tops out). This will require a Static Pressure (SP) setting from 50-70 psi., with the rider off the machine.

4. Take a measure from the ground to top of the rear bumper.

5. Have rider sit on sled (with or without gear) and bounce on the seat, then settle into the seat and take the bumper measurement again.

6. Subtract the second measurement from the first, the numbers for the initial settings should be 4.0" to 4.5". Adjust the Static Pressure (SP) pressure until within this range. Your suspension is now at a setting that will allow you to make your initial ride check.



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ADJUSTING THE AIRWAVE

REV-1 12/07/06

- A. Please note that a critical bit of information when tuning your suspension is the Static Pressure (SP) setting. This
- B. setting is checked with the rider off the sled after you have lifted the rear bumper to the top of travel and let the sled settle.
- B. Once the initial Air Pressure has been set to achieve 2.0" to 3.5" of Sag measured at the rear bumper, the rider is ready to take the sled out on a smooth trail and get the feel of the suspension.
- C. The rider can now make some acceleration runs to see if the Static Pressure or SP is sufficient to resist torque induced bottoming (if bottoming does occur an SP increase of approximately 5 psi should correct this).

Again, on battery-less sleds it may be necessary to rev the sled's motor to just below clutch engagement to energize the compressor on low watt electrical systems. On such systems it may also help to shut the hand and thumb warmers off when making adjustments. If the gauge needle isn't vibrating when thumb input is made at the switch then the compressor isn't turning.

- D. Next, find some slightly rougher terrain and ride through it and try to sense if the system is too soft or firm. Adjusting the Static Pressure (SP) either with hand pump, onboard compressor or shop compressor in 2 -3 psi increments will sufficiently change the suspensions reaction to the bumps to be noticeable.
- E. Next, find some rougher terrain and ride through it starting slowly and build up speed as knowledge of the suspensions bottoming resistance is accumulated. Ultimately set the suspension maximum resistance to bottoming at a level acceptable to your personal preferences. The higher the resistance to bottoming will also give the least comfort in other situations.

Note: Once you achieve your settings you will find a change of 2-3 psi will make a significant change and 5 psi should be the maximum change made in at one time for a single rider. When adding a second rider of 150 lbs a change of approximately 20 psi is a good starting place, but a low speed check ride should be used to validate correct Static Pressure before traveling at any speed.

WARNING: The Static Pressure or SP should never exceed 100 psi on a rider-less machine.