



TIPS FOR NEW RACERS

SECRETS FOR THE NOVICE TUNER

- 1. Most experts aren't.**
- 2. Research is the difference between speculation and investment.**
- 3. Just because someone goes fast doesn't mean you should do whatever you THINK they did.**

This path assumes they knew what they were doing, which isn't necessarily the case.

Take this path and you will be guaranteed second place.

- 4. Test, Test, Test.**

Over the past few years we have started to get a lot of calls from the new 1st time racers in 120 stock class racing at the regional level, their biggest complaint is how slow they are compared to the other racers that have been racing for more than one season. Their first response is the other racer must be cheating to go that much faster and what can they do to make their sled as fast. I tell them that I DO NOT believe in cheating and feel it is a very poor example to set for kids. So I have compiled a list of things that can help these 1st time racers have a competitive edge like the seasoned racers.

1) You can not take a stock yard sled and expect it to perform like a well- prepped race sled without doing even the basic preparation. Most of the time the difference between winning sleds and slower sleds is taking the time to prepare your sled. Not cheating.

2) Engines Prep.

*Run 87 octane fuel; race fuel in a stock engine has no performance gains what so ever.

*Run 18 ozs of 10w 30 engine oil.

*Set intake and exhaust valves a .004 clearance. There is a little more performance to be had at different settings, but this is a very good starting point.

* Install an adjustable main jet. This is a must to get peak performance, and it is ISR legal.

*Install a heavier governor spring for more peak rpms, or removing the governor gear from the inside of the engine is an ISR legal option also.

3) Chassis Setup

***Remember friction in the drive train is lost hp and speed. The more friction you can remove from the drive train the more usable hp and speed you will have.**

***Make sure your skis are aligned and have no big gouges out of them that can cause extra drag in the snow. Armor All also works great to keep the slippery on the bottom.**

***Make sure all of the track clips are installed properly on the track and none are missing or damaged.**

***Make sure all of the track wheels turn freely, and also the drive axle bearings. Removing the seals on the wheel bearings and replacing the grease in them with a light - weight motor oil will reduce friction greatly. Remember to replace the seals.**

***NOTE: The amount of pressure it takes to move the track on a National event winning stock class 120 is around 4 to 4.5 lbs when checked with a fish scale.**

***Make sure the hifax are in good condition, and the track rolls free over the hifax.**

***Lube your track and hifax with vegetable cooking oil. It is bio degradable and will reduce friction at the hifax and drivers. Note check to see if this is legal to do for your race circuit.**

***Remember loose is fast. The racer with a 2 year- old sled will always have a freer rolling chassis than a new sled.**

***Warming up your sled SAFELY before the race is very important, especially with the track turning. This will let the track roll easier.**

***All of the above items will give you at least a 2 to 3 mph gain with stock gearing. This is a huge increase over a non prepped sled.**

4) Race prepping your child

This is one of the most important items on the list.

***SEAT TIME, SEAT TIME, SEAT TIME! The more your son or daughter rides, the more comfortable they will become with the sled. Teach your child how to stand up when riding. Have them ride on rough terrain instead of smooth trails. The kid that wins is not always the one with the fastest sled. It is the kid that can stay on their sled in the bumps and deep snow and finish the race without falling off.**

*** Let your child have FUN! The less pressure you put on your child to win the better they will do.**

200 CLASS TIPS

The new ISR 200 Stock class has proven to be a very interesting class. The class rules were structured to allow very little changes to be done to the sled and put more emphases on the driver. The other objective was to make it easier for the first time racer to get involved in racing without having to break the wallet on speed parts to be competitive.

The feedback so far has been good overall, but as with any racing has also created some minor controversy, and has been a little stressful especially for the Dads that were used to tweaking the 120s to get an edge on the competitor.

Compiled below is a list of speed tips for the new 200 sleds. This list was developed from the input of many grassroots and National level racers along with our own in house dyno testing. We commend the Dads and Crews who are willing to help the sport by helping the newcomers to racing with these tips. We have found that heavier kids are not at a disadvantage in the 200 class like in the 120 class in fact it might even help them a bit.

- Friction is your enemy, loose is fast, this is why the 200 gets faster with use, we have seen sleds with a ton of hours on them be almost a 1 to 2 mph faster than a new sled. So ride, ride, and ride the more seat time your young racer has the better they will get and the faster the sled will get.
- The 200 comes with every other track clip missing, (FRICTION) install all the track clips, graphite hi-fax will also help. Looser track tension will help also. By turning up the idle until the track is turning over when the sled is on the track stand warming up, takes the set out of the track and makes a huge difference in the take off. Remember the hole shot is everything in 200 racing.

- **Ski alignment; make sure the skis run parallel to the track, to prevent dog tracking of the sled. Lay a 6ft known straight edge along the side of your track and measure to the side of your ski to see if it is running parallel then adjust the other ski to the match, remember to keep the handle bars straight when doing this.**
- **Engine oil 19 oz. of good 10w30 oil Amsoil 4T or Redline racing oil is my recommendation.**
- **Jetting; The 200 comes very lean due to emissions especially the pilot circuit. Factory pilot jets are not available at this time so drilling the pilot jet is legal to do. Pilot jet drills are commercially available, drill the jet to a 55 pilot jet size. The engine will idle a little erratic but this is nothing to worry about. It will give you a great hole shot. If you are running an adjustable main jet 1 3/8 to 1 1/2 turns out from seated will give you optimum performance for temps of 32F to -5F.**
- **Valve setting .002 on the Intake and Exhaust works great. Remember to set the valves when cold.**
- **Clutching; Primary clutch must stay as factory, but you can check for free movement of the floating sheave. Secondary clutch, on hilly tracks we have found tightening the secondary to help performance and on flat tracks loosening help performance. (See details and pictures at end of page)**
- *** BE SURE TO SEAL HOLES IN FRONT OF BULK HEAD TO KEEP SNOW DUST OUT FROM AROUND CARB.**
- **Clutch alignment; (BIG FRICTION) almost 2 mph in 150 feet. Make sure that your primary and secondary clutches are running in alignment. Put your sled on the track stand and (SAFELY) run the sled at WOT from a (SAFE) distance observe the drive belt to see if it is running in a straight line, if it is not running true, shim the secondary clutch out to achieve proper alignment.**
- **Engagement; We have seen big reductions in hole shot times when you bring the engine rpms up to around 2300 before hitting the throttle at the starting line.**

- **THE MOST IMPORTANT TIP. THE DRIVER;** Remember this class is all about the driver, riding style will have a big effect on the performance of the 200. Because of the track length the 200 does not have great weight transfer, riding as far back on seat as possible reduces ski pressure and will add more traction increasing speed. Keeping forward momentum... is the real key to corner speed. Ever see a rider take the high side or gain a couple of sled lengths out of the corner this is because they kept forward momentum. Train your rider to **ALWAYS** keep the throttle wide open and when entering a corner grab, the brake without letting off the throttle this will keep the drivetrain loaded allowing them to keep forward momentum.
- **And most important HAVE FUN...**the more pressure you put on your child to do good, the more likely they will not want to move forward in their racing career.

QUICKER UPSHIFT

SECONDARY CLUTCH ADJUSTMENT CHART

SLOWER UPSHIFT

SLOWER BACKSHIFT



A1---B1

C2-OEM SETTING

A2---C3

B2---A3

B3



QUICKER BACKSHIFT



ALWAYS TURN MOVEABLE SHEAVE
CLOCKWISE TO FIRST RAMP ON HELIX TO
SET SPRING TENSION.



THIS IS HOW THE SECONDARY
WILL LOOK IF SET PROPER.

