

PROJECT PROCLIMB 800

BY TIM LESSARD —
GRIP N RIP RACING

TURNING A DEEP SNOW SLED INTO AN EXTREME CROSS COUNTRY RACER



Team Grip N Rip, winners of the 2009 Cain's Quest endurance race and third-place finishers in 2011, is back at it for 2012, but this time they're racing Arctic Cat M 800s. Here is the story about the sleds they chose for this year's race and the modifications they have made to their pair of identical race sleds.

We are once again getting ready to compete in the Cain's Quest snowmobile race in Labrador & Newfoundland that starts on March 17th, 2012. This is an extreme snowmobile race of approximately 2,000 miles across some of the most rugged terrain possible in Northern Labrador, Canada. If man and machine can complete this race, you are winners in many respects.

To do well in this race you need to be in good physical shape and be mentally ready to race for long hours without hardly any

rest. You also need to have a tough dependable snowmobile that performs well in various conditions that range from deep snow to drifted lakes, from wind-blown rocky conditions to rough sea ice. It's no trail ride through the woods, by any means. Last year we stretched a pair of Ski-Doo Renegades out to 146" track length to better handle the deep snow sections of the race course, and this year we're going even longer with a pair of 2012 Arctic Cat M-800s on the new Proclimb chassis. This new sled is very durable and has a chassis that can be tuned to work well in all conditions.

Endurance

Cain's Quest is hard on the body and ergonomics is a big part of our setup. Long hours on the sled can take a toll on your hands and arms. The Grip N Rip Isovibe SX (handlebar vibration isolator) is a huge advantage in this type of race as it absorbs a lot of the vibration from the big 800cc twin, but it also absorbs much the shock impacts from hitting bumps. A lot of Iron Dog racers run the Isovibe SX and many of the top finishers in Cain's Quest have run them as well.

We also worked hard on the handle bar position and height. You need a good compromise between sitting and standing so it's comfortable for both.

Last year we ran 6" wide skis in the race. They worked really well in most of the conditions except the really deep snow. This year we are running the new 8" wide Gen 3 skis from Simmons. We really like the tracking of these skis; they don't dart, they turn easy and float really well. Having a ski that doesn't wear you down is important.

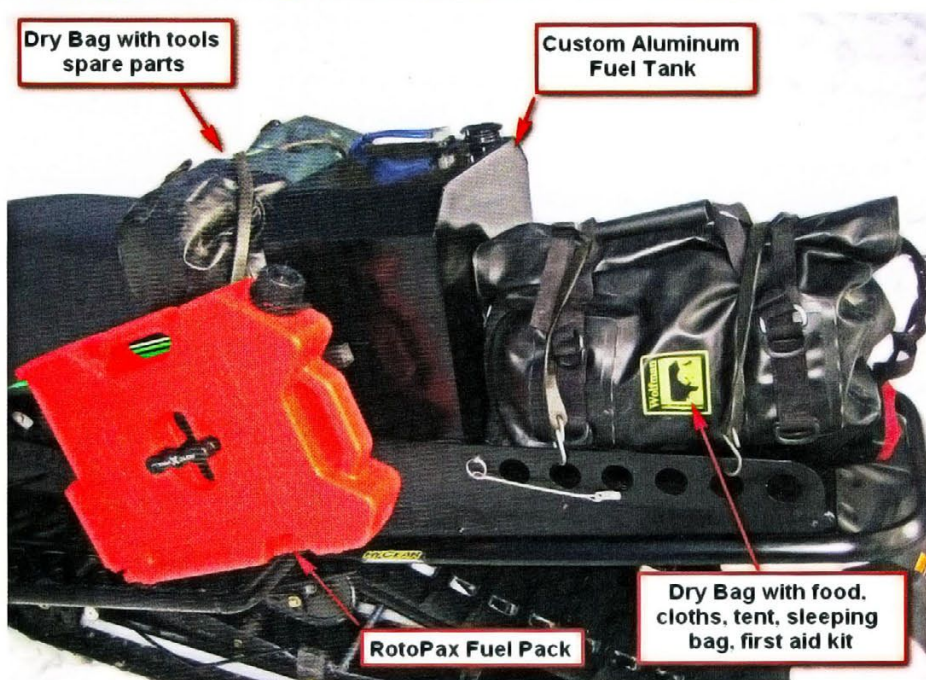
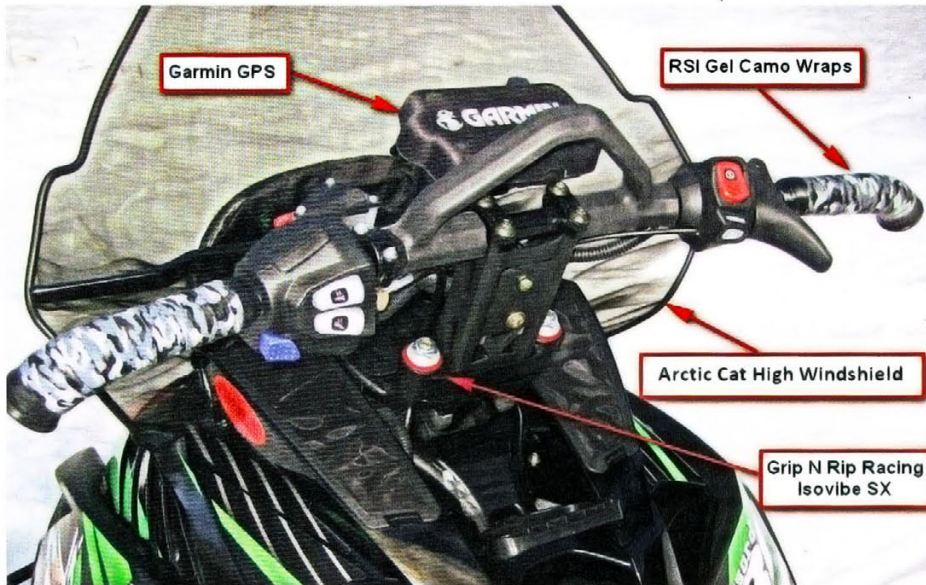
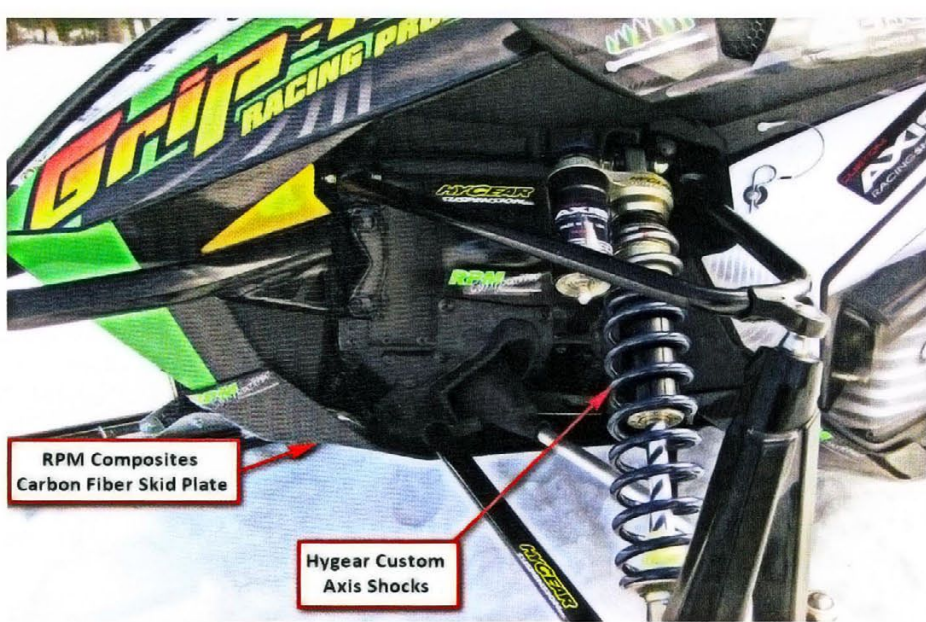
RSI Gel Wraps are also a good addition to the handlebars as they have a nice soft feel and a good grip so you don't have to hold on so tight. In a long race like this every little bit helps. The combination of handlebar position, Isovibe SX riser and RSI Gel Wraps give us a great combination for long hours of hanging on through rough conditions.

Track & Suspensions

The Arctic Cat M 800 Proclimb came stock with a 153" long track with 2.25" lugs. This is more of a deep snow mountain track, so we needed a track that was more of a compromise for the varied conditions we would encounter. We changed the track to a 151" length with 1.5" lugs. The only problem with this track is that it is a 2.52" drive pitch, so to accommodate this track we installed the 2.52" pitch drivers from a 2012 Procross sled. Why not just start with a 141" XF 800? We really wanted the extra track length for deep snow flotation, and the extra tunnel length for cargo.

Running the 151" track caused another issue as we ended up not having enough track adjustment with the stock rails with the 2" shorter track. We called IceAge and they build us a custom set of rails to work with the shorter track. IceAge didn't cut as many lightening holes in the rail, as we are more concerned with strength over light weight due to the extra gear we have to carry.

Our M-800s came stock with the Fox Float air shocks. These are nice light shocks that work well in most conditions, but Cain's Quest isn't like most conditions. This race is in extreme conditions, carrying extra weight and the potential for very cold temperatures. We have used Hygear's Custom Axis shocks in the last two Cain's Quest races and found



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them to work very well and are very durable. Hygear is very capable with shock setups and they worked up some custom coil-over shocks for our Proclimbs.

The front suspension design on the 2012 Cats is very tough and strong. In the past races we really had to brace up the front ends, not with this Cat. The only change we made was adding the Hygear Custom Axis shocks with dual rate springs to the front end. Cat's new front end works really well and with these shocks it works even better.

The stock rear suspension comes with two wheels on the rear axle. We wanted to run four wheels to spread the out load onto four wheels and bearings instead of two. There wasn't a four wheel kit available yet for the new sled so we decided to design a Grip N Rip Racing kit. Our kit uses billet aluminum wheel spacers that lock into the stock inside spacers using two dowel pins. A long 10mm bolt then goes thru the spacer into the stock axle to be able to tighten everything up. In our testing this kit has proven to be very durable and works well.

Clutching

Since we made so many changes to the sled from track, gearing, and drivers we needed a different clutch setup. Billy Howard helped us with our setup we used in the last two races and knows his stuff. Cain's Quest is a different kind of race and takes a different approach to clutching. You need a setup that works well at slow high load conditions thru the woods in deep snow plus a setup that will run down the lake at high speeds for hundreds of miles. The other part is to make sure it's good on gas. We have a few runs that are 250 miles long so gas mileage is an issue. To do this we've worked on a setup that engages low and keeps the RPMs down on the bottom for better fuel mileage but that still is responsive when you hit the gas. This 800 Cat motor has so much torque down low that we were able to come up with a setup that works well in all conditions and is easy to ride fast.

In last year's race there were times breaking trail when we had to stop, back up and go forward again to pack down a spot to get a run. This forward and reverse is really hard on the rollers in the driven clutch if you're not careful with the throttle. Hi-Torque Clutch Rollers came out with a new heavy duty roller for the new Cat clutch that can handle this extreme abuse. We like them so much we became a dealer for them.

Extra Fuel

Because we have to run up to 250 miles between checkpoints we need to carry extra fuel. This year Innovation Specialties built custom aluminum tanks that fit behind the seat for extra range. In the remote sections of the race we are each adding two Rotopax fuel packs to the sides of the tunnel. These Rotopax fuel tanks are very tough and have a nice quick release attachment bracket to make refueling quick and easy. Behind the fuel packs are custom quick detach racks that will hold extra A Arms, shocks and parts just in case.

Durability

We ran RPM Composites Carbon Fiber Skid plates in the last two races and wouldn't run the race without them. It is really like armor for the belly pan area. RPM Composites really came thru this year and made Carbon Fiber Skid plates for the new 2012 Arctic Cat chassis. These skid plates fit like a glove and protect the vulnerable areas like the chain case, brakes, belly pan, and front air box. This year we are going thru a new area that is wind blown and is full of rocks for

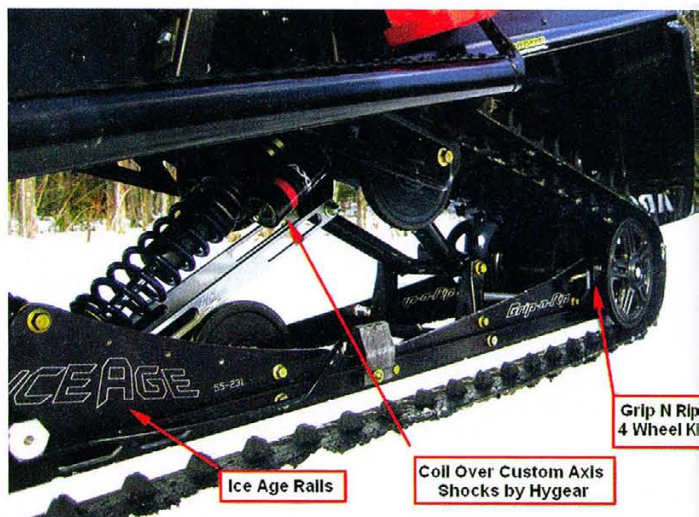
hundreds on miles. Having these Carbon Fiber Skid plates is key to surviving Cain's Quest. To finish first you must first finish.

Custom Graphics

We wanted to do something custom with the graphics on the sleds. We talked to Bruce at Sled Wraps who makes really high quality graphic wraps. Bruce designed us a custom look to showcase our sponsors for the race. He was very easy to work with and a talented designer.

Finishing Touches

Prepping a sled for an extreme cross country race also includes basic items that many riders will add to their own trail sleds. Our race sleds provide excellent rider protection with the addition of the OEM Arctic Cat high accessory windshield, making it far more tolerable to ride when conditions get brutal. Another critical addition is the Garmin GPS mounted high on the handlebars so we always know where we are at. And finally, we installed a set of ice scratchers from RSI to give us adequate hyfax lubrication in icy conditions, a must-have addition. Now let's go racing!



Vendor List

- Ice Age Performance** - Custom Rails - www.iceageperformance.com
- Hygear Suspension** - Custom Axis Shocks - www.hygearsuspension.com
- Grip N Rip Racing** - Isovibe SX & 4 Wheel kit - www.gripnripracing.com
- Howards Performance** - Clutching Setup - www.howardsinc.net
- Hi-Torque Rollers** - Driven Clutch Rollers - www.hitorquerollers.com
- Simmons** - Gen III 8" Wide Skis - www.flexi-ski.com
- RSI** - Gel Wrap Grips & Ice Scratchers - www.rsiracing.com
- Innovation Specialties** - Fabricated Gas Tank - www.iscustomfab.com
- Rotopax** - Plastic Fuel Packs - www.rotopax.com
- RPM Composites** - Carbon Fiber Skid Plates - www.rpmcomposites.com
- Sled Wraps** - Custom Sled Wrap - www.sledwraps.com

