

Hydraulic Pump Division **SUCCESS STORY: Tyalta Industries**

PARKER GOLD CUP® PUMP HELPS TYALTA ROTOSLASHER EASILY CHEW THROUGH FROZEN WOODED LAND

CUSTOMER

Tyalta Industries Inc.

APPLICATION

RotoSlasher soil separator

SOLUTION

Parker P24 GOLD CUP hydrostatic pump

VALUE

Smooth and consistent operation with no problems in harsh, extreme cold conditions; simpler installation; easier to troubleshoot

ABOUT ROTOSLASHER

Winter is generally the only time that Western Canadian companies can get into their sites to lay pipeline. Since development is now often done in settled areas, operators have had to deal with farmers' concerns about the impact that lease construction might have upon their land. Clearing leases and other wooded terrain has long been a major headache for operators. Everyone – both landowner and operator – wants a quick, clean, no-hassle method to clear land with minimal fuss and maximum profit.

A typical lease clearing requires at least three different machines to complete the task. But, even then there is still the need to deal with the rubble and debris that remains. Traditionally, land prep has involved the use of bulldozers with ripper shanks. When the land is frozen solid, it is almost impossible to avoid mixing both surface soil and subsoil. And, when wooded land is cleared, there is still the need to remove brush and small trees, pull stumps, pick them up, rip the soil, push it up and move it back.

To solve both problems, Tyalta Industries Inc. (Crossfield, Alberta, Canada) designed and developed the RotoSlasher – an independent two-unit attachment that can be mounted on crawlers such as the CAT D6 and Deere 850J. A patented 40-inch diameter, variable speed cutter drum with 158 tungsten carbide teeth (*Figure 1*) is driven by an integrated hydraulic pump and motor teamed with its own diesel engine. The cutter head is mounted on a “C” frame that enables it to be attached to a crawler track dozer. Buyers of the separate RotoSlasher unit have to provide their own track carrier machine.



Figure 1: RotoSlasher units feature Parker's P24 GOLD CUP pump teamed to a CAT 18 525 hp industrial diesel engine, powering two 180cc bent axis motors

For deep-frozen cultivated farmland, the RotoSlasher provides precise separation between the surface and subsoil. It is possible to cut it off where there is no mixing of the two soils. They are placed in separate piles ready to be replaced in proper order when it is time for reclamation.

For clearing wooded terrain, the RotoSlasher will churn through 10-inch diameter trees, stumps, roots, rocks – virtually everything else in its path – and grind it into mulch and mix it back smoothly into the soil at a 40- to 50-foot per minute pace (Figure 2). There is nothing left for the operator to do but load up and move on to the next site.

While use of the RotoSlasher is a bit more expensive than conventional land clearing, it pays solid dividends on the back end by letting the operator reclaim their leases in a timely fashion and get them off their books. Plus, the landowner is very happy with the end result.

THE PROBLEM

Unfortunately, the original hydraulic pump selected to power the rotating cutter drum proved problematic. “There were issues with the rotating group and shaft,” notes Tyler Kergen, Shop Manager, Tyalta Industries Inc, “plus there were other issues including leaks that would magically go away, only to reappear and do some pretty funny stuff.”

THE SOLUTION

“To get the right fix, we researched a variety of pump options, including Parker’s line of GOLD CUP hydrostatic piston pumps. Our Parker distributor Kinecor, Alberta, Canada (www.kinecor.com) was very knowledgeable and helpful in explaining how the GOLD CUP pump would work well for this demanding application.

“Our new RotoSlasher units now feature the P24 GOLD CUP pump teamed to a CAT 18 525 hp industrial diesel engine, powering two 180cc bent axis motors. This unit has a completely self-contained HPU that mounts to the back of the carrier unit. The hydraulic hoses are run from the pump up to the front of the carrier unit, then down to the cutter head. The entire operation is completely independent from the crawler it is mounted on.”

THE RESULT

“The previous pump units we had in the field, in addition to the issues noted above, would surge during ramp-up along with a very loud noise,” Kergen points out. “With the GOLD CUP pump, when you kick it in, ramp-up is nice and smooth with no surge noises. Now our machine just purrs along.”



Figure 2 (before, during, after): The RotoSlasher easily churns through frozen wooded areas

SEE IT CHEW

Watch the RotoSlasher at work at www.youtube.com/user/TyaltaIndustries. Contact Tyalta Industries at 800.960.9939 or info@tyalta.com.



“Overall, the GOLD CUP pump has greatly simplified things for us. For one, it is simpler and easier to install. And, in frozen ground applications where our units are often run 24/7, the pump is much easier to troubleshoot should there be a problem – which there hasn't been.”

In severe cold weather pipeline laying applications, operators will run the machines down to -30°C. If the machine has been shut down, there is a heater in the oil tank that takes coolant from the diesel engine and cycles it through the tank to keep the oil warm. In addition, a pro-heater unit is installed so that the engine doesn't have to idle. With a timer on the unit, the hydraulic oil can be warmed up well before it is time to turn the key.

