

Mine increases haul truck tire life by 20 percent using innovative VISTA Tire Care training program

\$3 million dollars in savings per year!

That's what a tire life increase of 20% meant to one mine in Canada.

Thanks to an innovative computer-based training (CBT) program produced by VISTA Training, combined with management, supervisory and equipment operator commitment, the tires of the Caterpillar 797B haul trucks at one Alberta oil sands mine are lasting about 20 percent longer. The computer-based training program was part of an extensive tire care awareness program instituted by mine management to help it minimize the effects of tire shortages, which were severe in the mid-2000s.

This Tire Care CBT training program, which resulted in VISTA Training, Inc., headquartered in Waterford, WI, USA, receiving a vendor excellence award from the mine, is focused on tire stewardship. According to this philosophy, tire care isn't just the job of haul truck operators; everyone in the mine has a role to play in helping to extend tire life.

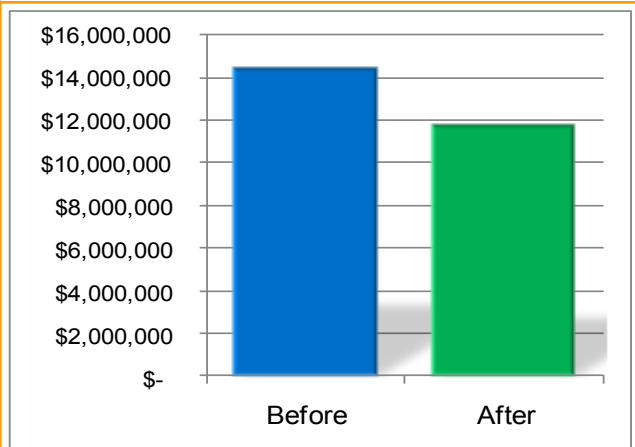
The impact of tire life on the mine's bottom line

Haul truck tires cost an average of \$50,000 each; with each truck using six tires, that's a third of a million dollars worth of rubber keeping each truck moving and productive. At the time the mine implemented the VISTA Tire Care CBT program, the mining industry was facing a severe tire shortage. If the mine ran out of replacement tires, trucks could be idled – an expensive scenario they wanted to avoid at all cost.

Using the VISTA Tire Care CBT program, the mine was able to increase its haul truck tire life



by about 20 percent. What does that mean in terms of potential cost savings? Here's a simple calculation, based on a fleet of 30 Cat 797B haul trucks:



Even a small increase in tire life can translate into big big bottom-line savings.

Background data	
Fleet size	30 trucks
Operating hrs./year (350 days x 20 hrs./day/truck)	7,000 operating hrs./yr.
30 trucks x 6 tires per truck	180 running tires
Average. cost per tire	\$50,000

Before improvement program	
Current average tire lifespan	4,500 hrs.
Number of sets of tires needed per yr. (7,000/4,500)	1.6 sets of tires/yr.
Cost of tires/yr. (180 tires x 1.6 sets/yr. x \$50,000)	\$14.4 million

After improvement program	
Goal to increase average tire life	20%
Average. tire life after improvement (4,500 hrs. x 20% increase)	5,400 hours
Number of sets of tires needed/yr. after improvement (7,000/5,400 hrs.)	1.3 sets/yr.
Cost of tires/yr. after improvement (180 tires x 1.3 sets x \$50,000)	\$11.7 million

Difference	
Savings (\$14.4 million - \$11.7 million)	\$2.7 million savings

These calculations illustrate that even a small increase in tire life can result in significant savings for a medium-sized mine. The mine's ultimate goal is to increase the life of an average tire to 10,000 hours – the longest haul truck tire life recorded in the mining industry.

The roles that mine personnel can play in tire care

Effective tire care is a team effort.

Haul truck operators, who have the greatest influence over extending tire life, need to reduce truck speed on rough haul roads and avoid making contact with rocks, berms and other obstructions. The VISTA Tire Care training pro-

gram features a series of problem-solving scenarios, which help haul truck operators to assess different situations, manage risks and make smart decisions that help them to extend tire life.

Shovel operators can help to prolong tire life by properly distributing loads in the trucks' dump beds, working smoothly to avoid spillage and by not overloading haul trucks. They must also alert haul truck operators to any potential obstructions or hazards on the floor of the shovel pit. In addition, effective communication with haul truck operators is essential to ensuring that they are able to back in to the shovel safely and efficiently. The value of haul truck tires is maximized when they are hauling optimum

loads and protected from damage.

Dozer operators perform critical cleanup duties in the mine's shovel pits and help to maintain smooth, hazard-free pits and dumps. Motor graders perform the lion's share of haul road maintenance, ensuring that haul trucks can operate productively on smooth roads that are free of rocks and other hazards.

Mine managers must be aware of changing haul road conditions, and can contribute to tire life by making decisions that favor improved care of these critical components – such as cycling a truck with high tire temperature to a less demanding haul profile. In addition, the mine planning and engineering group makes decisions about the design of haul roads, ramps, superelevation of curves, road base and construction materials, drainage and other factors that can have a positive or negative effect on haul truck tire life.

Finally, mine maintenance personnel must closely monitor haul truck tires for underinflation, which can lead to excessive tire wear, and must inspect them on a regular basis for any signs of damage.

Conclusion

While the severe tire shortages of 2003-2006 have subsided, shortages may still occur, due to continuing strong worldwide demand for mining commodities like coal, copper, diamond, gold and oil sands. With a training program like VISTA's Tire Care CBT in place, the management of the Canadian oil sands mine feels confident that they are taking proactive measures to manage their haul truck operating costs and to maximize their utilization of their critical production equipment.



About VISTA Training

VISTA Training provides equipment operator training solutions that enhance mine safety and productivity. Its operator training programs are focused, effective and tailored to mine environments. Its full line of mining products and services include an integrated haul truck operator training curriculum (including on-the-job training aids and simulators), operator training programs for a variety of mine production equipment, a mine simulator product line, mine production analyses and on-site equipment training services.

VISTA's staff has a wealth of experience in the mining industry—both managing training and operating mining equipment—which enables the company to produce training that is unique in the quality, breadth and depth of content they contain, and the value they provide to mines worldwide.

For more information about VISTA's Tire Care Program and our other training products and services for mining, please call:

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