

2005 AWARDS COMPETITION WINNER



Tallest Structure Moved



Minty's Moving, Ltd.

Onanole, Manitoba, Canada



Harold Minty

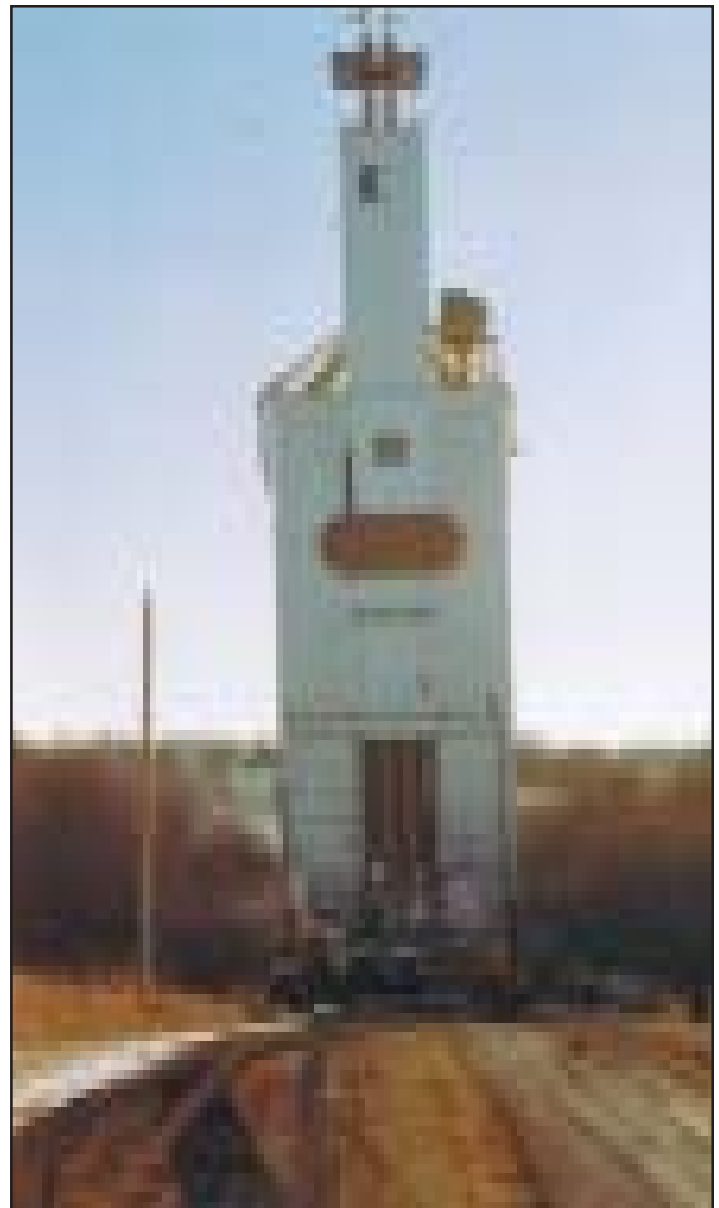
La Riviere Elevator Move

Word was out that J.B. Anderson Building Movers was planning a move of several structures. Harold Minty contacted Jack Anderson with the thought of renting Jack some of his dollies for the move. Jack not only said "yes" but also added he would like Harold's company to move the tallest, an elevator, of four structures to be transported at the same time in order to reduce the cost of elevating utility wires.

The loads consisted of the main elevator house measuring 38' W, x 39' L x 156' H. The elevator weighed 280 tons plus 63 tons of equipment that increased the height of the structure four feet to 160'. An elevator annex was 36' W x 48' L x 96' H and weighed 240 tons. Three bins, hauled in one load, measured 33' W x 104' L x 106' H. The fourth load was an office plus a portion of a scale house wall. Measurements were estimated to be 22' W x 50' L x 26' H.

The permitting official did not approve the originally planned route of 38 miles, on major highways. Alternatively a more direct route with fewer power lines and virtually no traffic was chosen but there were concerns. Grades were very severe with an up grade of 13% and a downgrade of 11%. These grades, with a load 160' tall on rubber tires, gets a little wild.

Our portion of the work was to come in with dollies, bunk, power up, make the move and power down onto blocking at the new site. Jack's crew installed cross loaders approximately 22" off the foundation allowing mains to be placed. We then jacked the elevator three inches and placed mains on an angle extending out the leading end toward the direction of travel. We then winched crossbeams that were welded to the main columns of the elevator starting the needed rotation. The elevator had to be turned 90 degrees within 50' of its foundation in order to be moved off site. We excavated four feet under the mains in front



The load traveled down an 11% grade into a small coulee.



The driver's side (left) had five dollies zoned together while the right side had six dollies zoned together.

of the elevator for placement of our hydraulic dollies. With the elevator elevated only three inches we repeated the process three more times while rotating the structure 70 degrees.

The transport dolly arrangement consisted of two rows of four and one row of three dollies, plus our prime mover. The driver's side (left) had five dollies zoned together while the right side had six dollies zoned together. Our 1992 Kenworth T800B with a 425B block Caterpillar, an 8 speed double under main and a 1241C aux coupled to 56,000 lb. 5.38 ratio rears was the third zone. With the elevator being so top heavy we built a hydraulic lift bunk to have more control from front to back. It is difficult to imagine how quickly the load changes with the center of gravity being so high. To support the weight a third main was installed just behind the prime mover where the cen-

ter dollies pushed. For load distribution the configuration worked quite well however for maneuverability the load was a struggle. Due to the small footprint of the load and the large number of dollies, on sharp corners the dollies were adjusted manually by retracting and realigning.

LaRiviere is located at the bottom of a deep valley. Somerset is situated 20 miles north on a fairly level prairie where all the fun began. The first move day took ended half way up a five degrees grad valley hill requiring no adjustments from front to rear of the load but there were problems with the power. At the start of the hill we did all necessary checks with brakes on all axles applied. The driver, however, did not wait long enough for the brakes to release and snapped the main drive shaft. At this point we added tow D75 Komatsu dozers on the front to pull the load to the



Four structures were transported at the same time in order to reduce the cost of elevating utility wires.

halfway point with two pusher trucks assisting on the climb. The next morning the driveshaft was repaired. The rear of the elevator was elevated 12 inches with blocking between the dolly jack and the main beams, plus the rear jacks were elevated almost 15 inches. At this point the elevator was leaning forward into the hill. We climbed the hill by 2:00 pm with the prime mover, two push trucks loaded with counterweights and two dozers. Due to a cross fall on the road up the hill Harold decided to shut off the two front dollies and not allow them to float in their respective zones. The decision was a good one. The right front dolly pressure spiked to 3000 psi and the left dolly came off the ground for about 150 feet with very little weight on the truck. The remainder of the day was spent assisting Jack to pull the annex to the top of the hill.

Within a mile on the third day the load was to travel an 11% downgrade into a small coulee. This one was pretty simple with a new hydraulic bunk mounted on the truck. The front bunk was raised and blocked off and reset with blocks between front dollies and beams. Inching down the hill was no problem. All blocks were removed, the load was moved another 150' and blocking was installed once again in the rear. The load went up the coulee without any problems even with the steepest grade of the move at 13 %.

From this point the route improved for the three additional days to Somerset, arriving into town at 3:00



The elevator weighed 280 tons plus 63 tons of equipment that increased the height of the structure to 160' as it traveled across the Canadian Plains.

pm. By noon the next day the load was off the main road. By nightfall the load had cleared halfway of two sets of railway tracks and the new foundation. The next two days were spent off loading and returning to home base. 