

Utility Repairs Beyond the Road

Bronto's tracked lift accesses remote transmission lines and towers.

By William Hindman

Utility company Hydro One, Ontario, Canada, recently faced a dilemma: It needed to inspect and repair transmission lines and towers located across active farm lands where there were no access roads. Although Ontario's largest electricity and distribution company has close to 7,000 vehicles in its fleet, including 149- and 191-foot truck-mounted aerial lifts, these wheeled units could only be used in areas where access roads enabled them to reach the towers. For this job, the company required a unique lifting device that could traverse the rough terrain. Hydro One's solution was to purchase the Bronto

have a track area of about 22,000 square inches, producing ground pressure of approximately 5 psi at 6 inches penetration so it can be driven in all types of terrain with minimal damage to the ground. Combine the overhead and horizontal reach capabilities with the low ground-bearing pressure of the track-mounted carrier, and the machine became the ideal solution to Hydro One's problem, allowing crews to reach the remote towers where there were no access roads without destroying the farmland.

The Bronto SI 156 HDT features a unique side-by-side boom configuration that reduces the transport height to less than 11'9" and allows it to be transported over public highways.

a lab technician to access the overhead area and install a portable inspection device that would let them see under the suspension clamps.

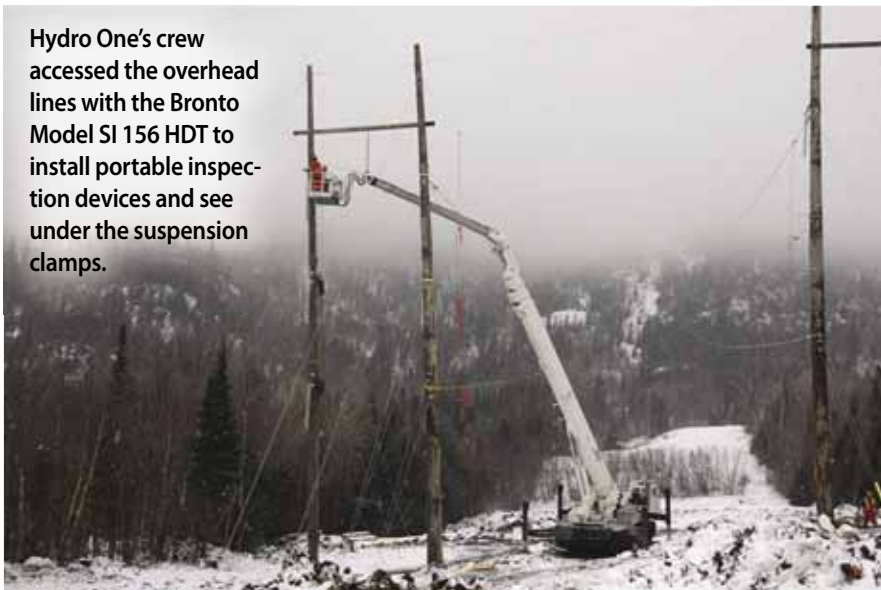
One possible method to reach the conductors was to use rope ladders, which would have taken a considerable amount of time and would not have been as safe as an aerial work platform with guardrails. The crew also could have reached the overhead areas using one of Hydro One's existing Bronto aerial lifts. However, because they are wheeled vehicles, the utility would have had to build 60 miles of roads to reach the towers, remove the roads once the work was completed, and restore the farmland—for an estimated cost of \$15 million to \$18 million. Based on the cost of building and removing roads, the cost of purchasing the Bronto lift was almost 10 times less, said Hugh Crockett, superintendent, Zone 8 transmission lines for Hydro One.

Hydro One also was able to use the Bronto for a variety of other jobs, such as when Ontario was hit by severe winter storms that left more than 230,000 customers without power. The Bronto machine allowed Hydro One to access areas where fallen poles and drifting snow closed roads and hampered restoration efforts. With its newest Bronto, Hydro One was able to restore power faster than previously possible.

The insulated Bronto SI 156 HDT aerial device is used not only for work on de-energized lines; it can also be used when performing bare-hand work on energized lines up to 500 kV because of its 15-foot sealed FRP upper boom with fiber optic basket-to-turnstile data transmission and sharp-edge corona ring. With its 360° continuous turntable rotation, ±90° platform rotation, and up to 180° of upper boom articulation, the Bronto Model SI 156 can easily access overhead areas. Minimum cycle time required for full elevation of booms is about 200 seconds.

"The Bronto SI 156 HDT track unit is about everything we could ask for," Crockett said. "It performs well, does what we need it to do, and can be used every day even where there are no roads to access the site. We may have originally justified its purchase for the London to Sarnia inspection and repair project, but it has already proved its worth in many other areas. It's an invaluable tool and a real workhorse." ■

Hydro One's crew accessed the overhead lines with the Bronto Model SI 156 HDT to install portable inspection devices and see under the suspension clamps.



Skylift SI 156 HDT aerial device mounted on a Hydra Trac HT 500XL heavy-duty, hydrostatic all-terrain carrier from Calgary, Alberta-based Track Industries Inc. Hydro One acquired the unit from HYCOTEC Inc., a Bronto dealer in Caistor Centre, Ontario.

Featuring a 150-foot maximum platform height and 79-foot maximum side reach at 135-foot elevation, the track-mounted insulated aerial lift is the tallest of its kind in the world. The Hydra Trac HT 500XL hydrostatic drive carrier has tracks that are 45 inches wide and

Overall width is 12 feet, and overall stored vehicle length is 46'6". GVW is approximately 50 tons. The transport trailer has a 70-ton capacity with a dolly fifth-wheel gooseneck for the main float to attach to.

Reaching the conductors

What led Hydro One to the track-mounted Bronto was it experienced vibration problems and failure of some conductors on its two 60-mile-long, 230-kV circuits that ran west of London to Sarnia, Ontario. During the inspection process, the company decided it needed to inspect every attachment point under the suspension clamps, which required a lineman and

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