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Hydro Mobile - Project Profile

SIAC

By Frank Defrance frank.defrance@hydromobile.com

The Daniel-Johnson dam, located in the Canadian province of Quebec, is the largest hollow-body multiple-arch-and-buttress dam in the world. Also called Manic-5, in reference to the powerhouse associated with the dam, this giant monolith went down in history not only because of its size, but also because it was, and still is, one of the greatest industrial prides of Quebecers. Today, almost 40 years after the dam was officially inaugurated, another company from Quebec, Hydro Mobile, stands out by designing a custom-made mast climber to inspect Manic-5's 67.5 million cubic feet of concrete.

In the 60's, the construction of a hydraulic network of no less than six dams on the Manicouagan River in the north of Quebec, marked the beginning of a series of great projects led by Quebecers to take over the leadership of the province's economy.

In fact, when the construction of this 4,300-foot long and 702-foot high dam began, Quebec was seeking solutions to face the increasing energy demand of the province. In the harsh climate of northern Canada, 3,000 men spent seven years extracting tons of rock, remodeling the landscape and pouring a total of 67.5 million cubic feet of concrete to create a reservoir commonly known as "The eye of Quebec". Inaugurated in 1968, the Daniel-Johnson Dam became a reference and helped promote engineering "Made in Quebec".

Since then, engineering in Quebec has continued to innovate in many areas. In the mid 80's, in the outskirts of Montreal, a local inventor combined hydraulic power with ratchet drive technology to create a mast-climbing work platform that turned out to be a revolutionary alternative to traditional scaffolds. This engineer certainly did not know that his invention was going to be used 20 years later to inspect and maintain the Daniel-Johnson dam.

In 2007, Hydro Mobile, a manufacturer based near Montreal, Canada, designed a mast-climbing work platform capable of reaching an altitude of 702 feet along a 33-degree inclination sidewall. The machine uses the engine and the rack and pinion technology of the F-300, one of the six models manufactured by Hydro Mobile. The R&D team of Hydro Mobile transformed this model into an 84-foot long and 7-foot wide platform with a load capacity of 3,000 lb, capable of climbing along a mast with an inclination of up to 45 degrees.

Hydro Mobile's team designed a customized base that was anchored into the dam's walls, and then assembled the mast climber on the edge of a 200-foot deep ravine. The masts were anchored every 15 feet and the platform was equipped with a stabilization system that ensured the workers' optimal comfort and security.

Using Hydro Mobile's products made inspecting the dam considerably easier, safer and more efficient. Just think of how it was done before; personnel had to rappel down the dam to perform the inspection work, something that was obviously not without peril. With Hydro Mobile's reliable products and engineering services, this type of work just underwent a small revolution.

Hydro Mobile designs, manufactures and distributes six models of mast climbing work platforms. This access equipment is used on a daily basis by thousands of North-American contractors to build and renovate residential and commercial buildings of any size. The platforms can carry up to 20,000 lb and have a climbing speed of up to 38 feet per minute. They also integrate innovative structural, mechanical, ergonomic and safety features to increase productivity, facilitate project completion, reduce worker fatigue and considerably decrease the risk of injuries.

