

Combining Forces

TADANO MANTIS PARTNERS WITH BIRMINGHAM FOUNDATION SOLUTIONS

Tadano Mantis heavy duty telescopic boom crawler cranes have a long history operating in foundation projects, and are commonly seen on job sites tending large drill rigs and piling cranes or handling vibratory hammers to install and extract piles or caissons. Recent cooperation with both foundation equipment manufacturers and customers have led to new applications of the Tadano Mantis crane with lead systems and impact hammers. Icada Corporation based in Laval, Quebec has recently rented a 77 ton Mantis Model 15010 from Cropac Equipment, Mantis' dealer in Quebec and Ontario, along with 78 feet of Birmingham Foundation Solutions L-15 ver-

tical travel leads, a Birmingham B-21 Diesel Hammer and an HHH-12 hydraulic spotter. Icada will be utilizing the Mantis Crane and Birmingham lead system to drive pipe piles in varying batter configurations for a bridge foundation near Chicoutimi, Quebec.

The Mantis 15010 was identified as an ideal piling crane by Icada because of the heavy-duty construction of the crawler crane coupled with the flexibility of the telescopic boom, the integrated lead and hammer controls that are offered as a standard option on the crane and the fast self-erecting capabilities of the crane and pile driving system. The pile driving lead interface option on the crane includes an integrated control console, spotter lugs, hydraulic valving and quick coupler panel. Included control functions for lead and spotter winches and cylinders to adjust batter, lead height, pile gates and hammer starter and throttle controls. Tadano Mantis and Birmingham Foundation Solutions have cooperated together for the past two years to develop a vertical travel lead (VTL) piling system optimized for the Model 15010 crane which can offer piling at radii up to 34'-4" and batters up to 4:1 in all directions with piles weighing up to 5,200 lbs. The crane and VTL system was displayed in a pile driving configuration at ConExpo 2011 in Las Vegas and then as a drilling system – with an Atlas Copco QL120 down hole hammer at the recent ADSC show in San Antonio in March.

Upon arrival at the job site, the Mantis crane quickly goes to work unloading and self-erecting its counterweights, then assembling and erecting the vertical travel lead system, which quickly attaches to the pre-installed boom tip adapter. The crane, lead and hammer system is completely assembled and erected in under a days time and is ready to go to work driving piles. The initial job that Icada will be using the crane for will consist of driving 40, 14-inch



and 16-inch piles that will be spliced to a maximum length of 93 feet. The piles will be driven inside of coffer dams below grade at batters set up by the hydraulic spotter, so no template is needed for the piling job. As quickly as the piling system can be rigged up, it can also be dismantled from the crane. Thus the Mantis can effectively go from a piling crane to a lift crane in very little time. Tadano Mantis cranes are suited for much more than lifting – the cranes have full load chart pick-and-carry capabilities, full power booms that can telescope the entire load chart, high powered Cummins diesel engines and performance matched hydraulics allow for both superior travel performance, as well as the ability to perform multi-function crane operations and to power auxiliary tools. Other standard options well suited toward foundation applications include controlled free-fall winches, a 14,000 lb-ft torque boom mounted auger drive, and a FOPS for the standard cab.

Tadano Mantis has worked with foundation contractors in support of adapting all sizes of Mantis cranes for various foundation jobs and applications. Over the years a variety of lead systems for either pile driving or drilling along with auxiliary hydraulic circuits have been adapted to Mantis cranes from 18 ton through 100 ton capacity. Serving the foundation industry with telescopic boom crawler cranes designed for the heavy duty applications seen by foundation contractors remains a key aspect in the present and future development process for Tadano Mantis Corporation. ■

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MANTIS CRANES



8012 • 40 Ton Capacity
(shown with auger option)



20010 • 100 Ton Capacity



TADANO AML-C

TADANO MANTIS Heavy Duty Telescopic Boom Crawler Cranes

15010 • 77 Ton Capacity

Shown with Bermingham Foundation Solutions:

L-15 Vertical Travel Leads - 88 Feet

B-21 Diesel Hammer

HHH-12 Heavy Duty Hydraulic Spotter

