



# NORTHROP GRUMMAN 200 TON CRANE

CASE STUDY

## THE APPLICATION

Rhoads Industries' heavy manufacturing facility required an overhead material handling solution for its large steel fabrication and for assembly of large components for industrial contractors, such as Northrop Grumman.

Reading Crane has been engineering, designing, building, installing, inspecting and providing parts for overhead cranes and hoists since 1905. R&M was selected by Reading Crane for this project based on the ability to meet the specifications outlined by the customer, within the budgeted time frame and with a competitive price.



# THE CHALLENGE

Rhoads needed to utilize the existing 300,000 square foot building, runway rail, and below the hook spreader beam to maximize the functionality of the new crane and minimize costs. Dimensional requirements and needs for high capacity lifts presented design challenges that Reading Crane was ready to meet by utilizing the R&M product offering. In addition, the application demanded precision controls for all motions, including micro-speed and inching/indexing capabilities.

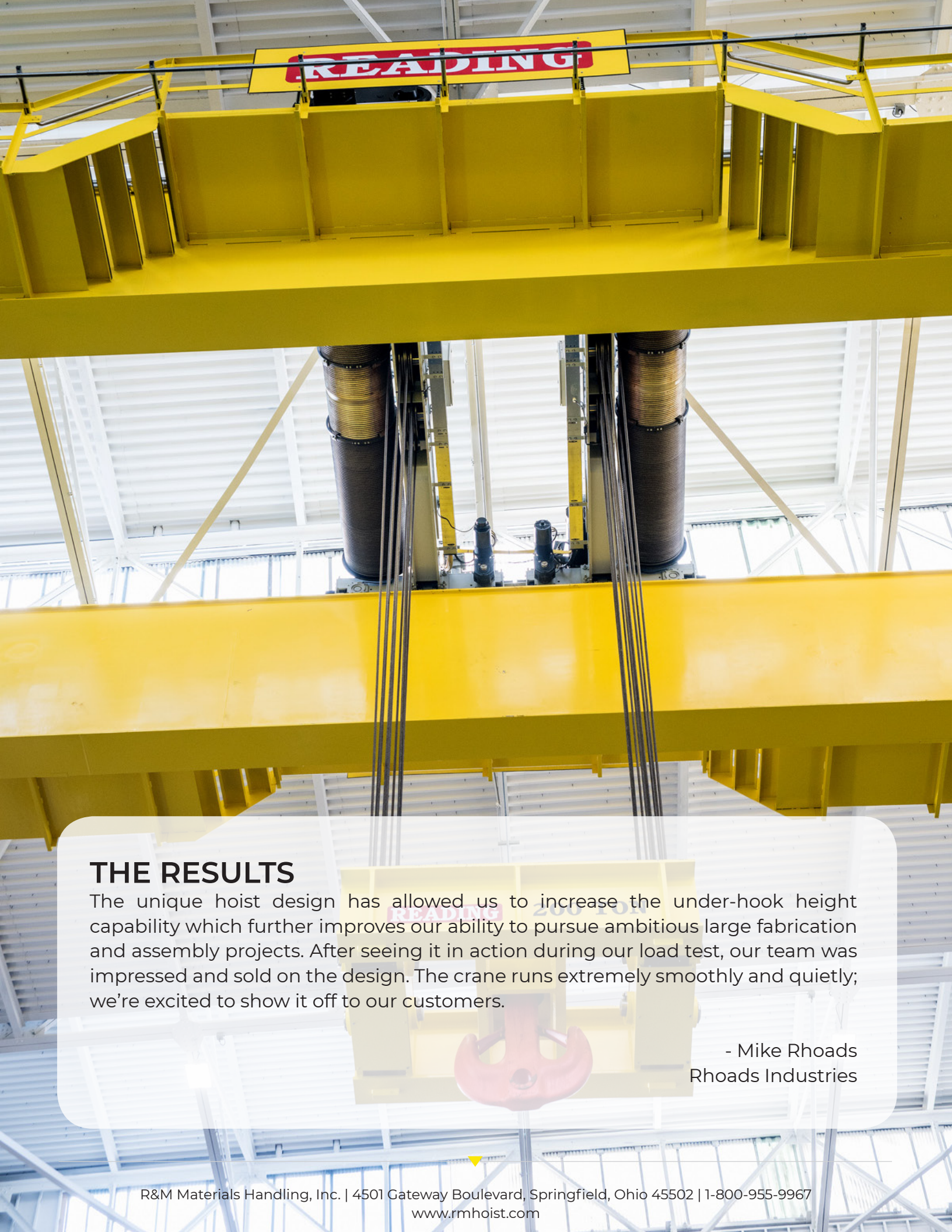


# THE SOLUTION

To accommodate the relatively small existing rail for this capacity crane, Reading Crane chose a special 16-wheel bogie end truck design to spread out the load on the rails; while still providing the required 58'-0" hook height. With the restraints of the existing building, utilizing a single 200-ton capacity hoist and trolley to obtain the required hook height was not feasible due to the large size of the components.

Reading Crane came up with a creative solution. They chose to use two 100-ton capacity SXL hoists which are linked mechanically and synchronized electrically to provide seamless tandem lifting of the two rope drums. This synchronization is paired with closed loop VFD controls, micro-speeds, and inching/indexing capabilities to obtain the precision movements required by Rhoads' application. The two SXL hoists were also reeved into a large, single hook block assembly, designed by Reading Crane, to achieve a single pick point. Reading Crane also installed a dual walkway to make servicing the equipment easier. By partnering together, Reading Crane and R&M provided Rhoads Industries with the unique design and functionality they need to fabricate their large-scale steel fabrication projects.





## THE RESULTS

The unique hoist design has allowed us to increase the under-hook height capability which further improves our ability to pursue ambitious large fabrication and assembly projects. After seeing it in action during our load test, our team was impressed and sold on the design. The crane runs extremely smoothly and quietly; we're excited to show it off to our customers.

- Mike Rhoads  
Rhoads Industries