



Perkins Specialized Transportation Contracting

The powerful design and simulation capabilities of Autodesk® software helped Perkins validate the performance of a colossal 400-foot, 192-wheel nuclear transporter truck.

Profile

Headquarters:
Northfield, Minnesota

Web site:
www.heavyhaul.com

Services:
Perkins Specialized Transportation Contracting provides professional long-distance highway transportation and rigging services for heavy, oversize and time-critical shipments and projects.

Perkins Specialized Transportation Contracting (Perkins), a leader in highway transportation services for long, heavy, and oversized objects, recently used Autodesk Simulation software for the custom design of a 400-foot-long truck specifically designed to transport nuclear generators.

The truck, which took nearly three years to design, provides a safe and efficient way to transport enormous, often radioactive components that were once considered immovable. The transporter successfully carried four immense steam generators from the San Onofre Nuclear Generating Station in Southern California to a disposal site in Clive, Utah.

"With a project this large, there is no 'do over' if the truck fails halfway through its journey," said Neil Perkins, president of Perkins. "You only get one shot to get it right. Autodesk software gave us confidence that every aspect of the truck had been properly planned, engineered and tested well before it hit the road."

Longer than a football field, the transporter trailer has 192 wheels and 48 axles, each of which can be turned independently, enabling the truck to effectively navigate sharp turns and different road grades, even with its considerable length.

Digital From Start to Finish

Autodesk Digital Prototyping software--along with training and support from Autodesk Gold Partner MasterGraphics--helped Perkins use a 100 percent digital approach to create a truck capable of carrying a 400-ton payload over 750 miles of road.

Perkins started with 2D sketches of the transporter created in AutoCAD software, then brought them into Autodesk Inventor software to model them in 3D. Inventor enabled Perkins to perform motion analysis and check for interferences throughout a full range of motion as the various axles turned and rotated.

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Perkins also used Autodesk Simulation software to optimize its designs, ensuring that the transporter had only the support beams necessary to successfully distribute weight among the various axles. The stress analysis ensured no axles were overloaded--and that the truck was as strong and light as possible.

The company selected Autodesk Simulation software as its single software solution for design and simulation needs, thus eliminating the need to translate models between multiple software providers.

"Having a complete, well-integrated solution for design and simulation helps companies validate and optimize designs before manufacturing, increasing efficiency and minimizing reliance on physical prototypes," said Robert "Buzz" Kross, senior vice president, Manufacturing Industry Group at Autodesk. "By taking advantage of Autodesk software, Perkins has risen to the challenge of an extremely demanding project."

About Perkins Specialized Transportation Contracting

Headquartered in Northfield, Minnesota, Perkins Specialized Transportation Contracting provides professional long-distance highway transportation and rigging services for heavy, oversize and time-critical shipments and projects. For additional information, visit www.heavyhaul.com.

About MasterGraphics Inc.

MasterGraphics, an Autodesk Gold Partner, is the Midwest's largest independent provider of CAD and imaging solutions. For additional information, visit www.mastergraphics.com.

About Autodesk

Autodesk, Inc., is a leader in 3D design, engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries -- including the last 16 Academy Award winners for Best Visual Effects -- use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio of state-of-the-art software for global markets. For additional information about Autodesk, visit www.autodesk.com.

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