

Hauling over 160000 pounds: Precision Heavy Haul, Phoenix, AZ, US

A nest of their own

Phoenix Arizona and the surrounding communities are the home of the National Football League Arizona Cardinals. Dating from 1898, the Cardinals are the oldest continuously run professional football team in the US and have had the Cardinals name since 1901. They were based in Chicago until 1960 when they moved to St Louis and then to Phoenix in 1988.

Since moving to Arizona the Cardinals have played at the Arizona State University's Sun Devil Stadium in Tempe. In November 2000 Maricopa County in Arizona approved funding for the construction of a new football stadium. In August 2002 a site was selected in the city of Glendale and the design was finalised.

The stadium will have a retractable roof and Precision Heavy Haul (PHH) was selected by the roof

fabricator and erector, Schuff Steel Company, to transport all portions of the roof steel from their fabrication plant in Phoenix to the stadium site in Glendale. The area is heavily populated with numerous overhead obstructions, and the 17 foot 7 inch (5.4 m) height of the 28 box truss top chord sections made this problem very significant. It was soon realised that a reduction in loaded height of 2 feet (600 mm) and pre-lifting all overhead wires would result in saving travel time and thousands of dollars over the 28 loads.

The sections were very strong in bending and compression, and therefore capable of sustaining the forces from Schnabel loading, i.e., where the load becomes part of the bridge between the end supports. As a Schnabel load, the bottom of the truss could be carried as little as 6 inches (150 mm) off of the

road surface, a substantial reduction from being loaded on any platform. PHH had previously designed and constructed a Schnabel trailer for hauling large diameter pipe and this equipment would require substantial modification, but it had adequate capacity and the necessary adjustment features.

The 15 mile (24 km) haul route from the fabrication shop to the stadium involved crossing several bridges and wrong-way travel on city streets to avoid light signals. Due to the consistency of the routing and obstacles, accompanying each load were two Highway Patrol cars – one front escort with a height pole, and one escort at the rear. The loaded

dimensions of the largest truss section for travelling over the road on the Schnabel equipment was 165 feet long, 20 feet wide, 18 feet 8 inches high (50 x 6 x 5.7 m) and with a gross weight of 344725 pounds (156 tonnes).

Due to congestion in the foundation hole at the stadium, and the hauling portion remaining ahead of schedule, several of the trusses were required to be staged on site outside the stadium. When ready, PHH moved in and manually reattached each section to the trailer.

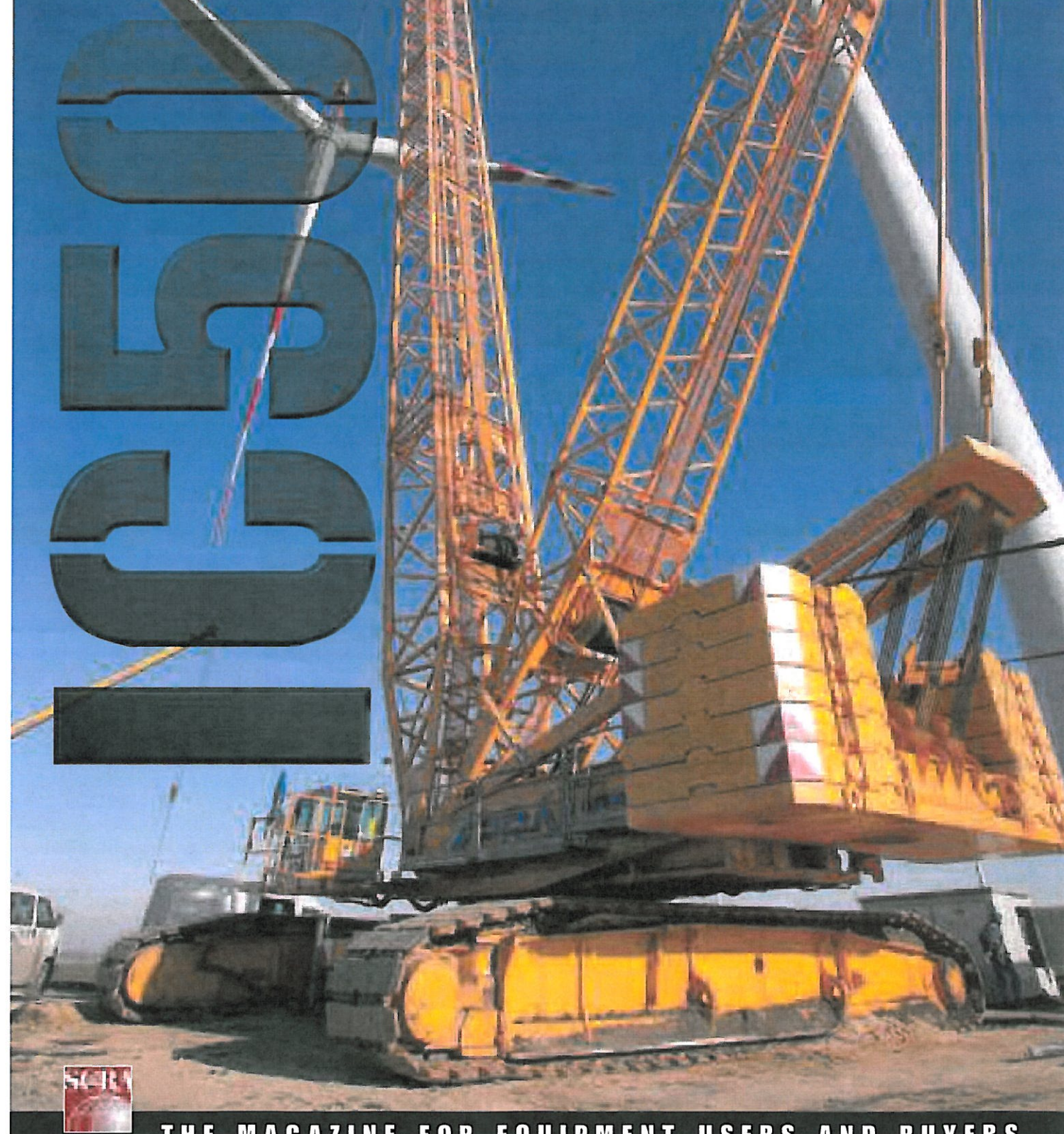
The uncommonly rainy weather in Arizona made for wet and muddy site conditions. Braking and load control was a concern so PHH opted to set 10000 pounds (4.5 tonnes) of counterweight on the gooseneck to add traction, and attached a D6 dozer to the rear of the trailer to ensure a safe and controlled final journey. ■



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