

Derricks hoist hefty weights

All-hydraulic climbing-tower cranes combine speed, reliability, and safety; microprocessor sets proper pump stroke

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Two Kodiak model KLD-400-LDH all-hydraulic climbing-tower cranes set lift records when hoisting structural steel, granite, and other building materials during construction of the 45-story Standard Oil Co. (Sohio) corporate headquarters building in Cleveland, Figure 1. Their speed and reliability permitted the steel erectors to finish hanging the steel ahead of schedule.

Engine-powered, all-hydraulic cranes have several distinct advantages over their all-electric competitors in center-city construction. Aside from faster and less expensive set-up, hydraulic cranes can apply more power to individual functions. Each function on an electric crane can only draw the power of the electric motor dedicated to it. If the hydraulic crane has a splitter-type multi-pump gearbox, the entire engine horsepower can be delivered to one pump while the others are off-stroke. This means that heavier loads can be handled in relation to total horsepower. Conversely, flows from several pumps can be combined for greater speed when desired. This versatility translates into greater productivity.

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Fig. 1. The two all-hydraulic tower cranes perch atop the nearly finished steelwork of the Sohio headquarters building, Cleveland, during the spring of 1984. Kelley Steel Erectors, Bedford, Ohio, owners of the cranes, completed the steelwork ahead of schedule.

