VLC Provides a Safe, Ergonomic and Economical Solution for Tire Assembly Plant

Features and Benefits
Handle various sizes of tire assemblies

Lift, pitch, and swivel tire assembly so the hub and axle centerlines are parallel

Rotate tire assembly to align keyway

Position tire to desired tread width

530 to 6000 pounds payload weight special vertical lift cylinder

Fixed floor pedestal, fixed overhead mounting, or powered overhead trolley and crane system

Custom designed hydraulic powered tool to lift, pitch and rotate various tire assemblies (v-lift for larger sized has powered swivel)

All movements of v-lift are powered with PLC controlled safety circuits

Operators are required to maneuver tire assemblies using ergonomic steering handles

Operator control station for convenient operation of powered functions

Industry Group: Ergonomic Assist Systems and Equipment (EASE)

A vertical lift cylinder solves problem for an assembly company that installs front and rear tire assemblies (tire, rim with hub, and wheel weights) onto the axles of farm tractors and harvesters. Various tire sizes range from 36 to 94 inch diameter and 18 to 49.5 inch width, with a weight up to 6,000 pounds. The problem was that the tire assembly needed to be orientated such that the hub centerline is parallel to the centerline of the axle. There is a close fit between the hub ID and axle ID. The tire assembly must be rotated to align the hub key with the axle keyway. Thus, the tire assembly is lifted, pitched, swiveled, and rotated during installation onto the axle. An overhead hoist, with a sling or C-frame lifting device, was used for lifting; however, this method lacked control and safety.

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