

# APPLICATION CASE STUDY #123

**SIC Code:**  
3714

**Product Handled:**  
Wheel Hubs

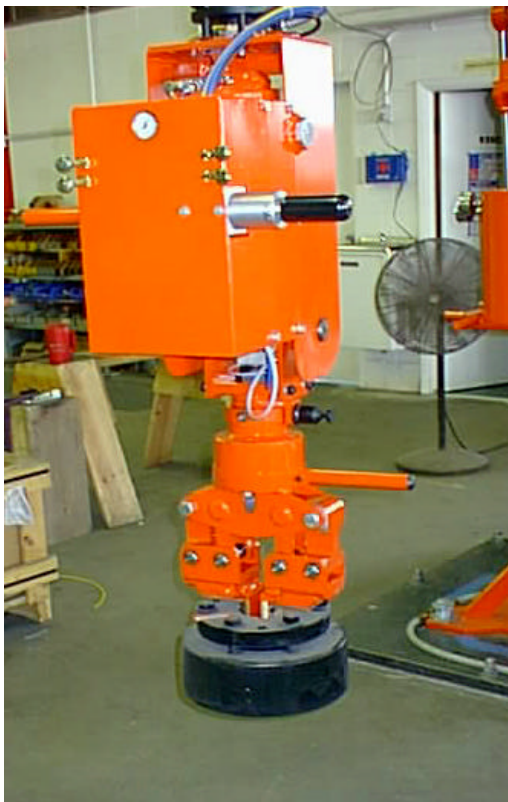
**Machine Type:**  
Pneumatic

## HANDLING

**DESCRIPTION:** Removing wheel hubs from a crate and placing onto the tire rim.

**PROBLEM:** Operators were lifting hubs out of a crate and holding the heavy part, while trying to align the wheel stud holes, and place it on the wheel. This procedure required two operators and still resulted in back injuries.

## MATERIAL HANDLING REQUIREMENTS & WORK AREA RESTRICTIONS



- Wheel hubs weigh up to 150 lb.
- Hubs are 7" long with a 3.5" – 4.0" bore.
- Pick-up height is 11" with the bore vertical and the hub in a crate.
- Placement height is 32.5" - 40.0" with the bore horizontal.
- Hubs need to be rotated around the horizontal axis to align stud holes.
- Requires safety circuitry for tooling release and loss of power supply.
- Manipulator reaches to allow hub installation on an assembly line while keeping manipulator base out of the tractor path.
- Bore cannot be damaged.
- Restricted overhead clearance and various work cell obstruction.

## MATERIAL HANDLING SOLUTION

- Manipulator model LS-100 with 100" of reach, 470 lb. tooling & payload capacity, 66" of vertical lift and 360 degrees main post rotation.
- 37" floor mounting pedestal.
- Parallel Linkage.
- Vertically extended pitching endjoint.

- Twist metering valve, pitch up/down toggle switch, push-button grip/release and gripper safety circuitry.
- Grip actuator with continuous rotation capability, parallel linkage master jaws and replaceable brass insert jaw pads.

For more information,  
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