

# **Air Cargo Lifts Handle Large Containers**

<http://www.autoquip.com/Applications/CaseStudy/Air-Cargo-Lifts-Handle-Large-Containers>



## **The Customer Requirement**

A major logistics company required a loading dock solution for transferring extremely large and heavy air cargo containers between variable truck bed heights and a fixed dock height.

## **The Challenge**

As one of the world's largest shipping/logistics companies, FedEx required a lifting solution that could safely and efficiently transfer air cargo containers of various sizes between ground level and dock elevation at its distribution centers and terminals. The challenge in finding the right solution lie in the fact that the lift had to meet strict performance criterion in order to provide uninterrupted and reliable service, as well as a useful life of 10 years or more under extremely rigorous operating conditions.

Several of the design challenges associated with this dock lift application:

1. Must lift/transfer containers weighing up to 15,000 lbs with minimal deflection
2. Containers sizes vary, up to 12 ft x 12 ft
3. Must be able to manually transfer containers between trucks and building
4. Manual stops and locks must be utilized to prevent unintentional container movement
5. Redundant systems must be in place in lieu of motor failures or electrical outages
6. Must be able to withstand severe/outdoor operating conditions

## The Autoquip Solution

The design team at Autoquip has utilized an American Lift scissors design to effectively meet all the performance requirements of this severe duty application. In order to handle the extremely large, extremely heavy loads with minimal deflection – a heavy duty scissors leg assembly has been designed utilizing large, structural steel tubing leg material, captured scissors rollers, and a one-piece axle pin.

The large platforms required for this application have been designed to optimize operator safety as well as product stability. Platforms are equipped with a non-skid walkway, roller conveyor deck, OSHA-compliant personnel guard rails, and manually-operated pallet stops.

Other premium lift features which provide durability and longevity include self-aligning hydraulic cylinders, high-impact self-lubricated bushings, structural steel cross-members at every pinned joint, and low-pressure hydraulic circuit.

### Basic Equipment Specifications:

- Lift Model: 49AC150-13
- Lifting Capacity: 15,000 lbs.
- Platform Size: 156" x 156" with non-skid walking surface, roller transfer deck, manual pallet stops, and OSHA-compliant guard rails
- Vertical Travel: 49"
- Lifting Speed: 7 FPM
- Redundancies: redundant hydraulic power unit; manual override "Down" valve

## Solution Benefits

Through the use of this heavy duty dock lifting solution, customer has experienced improved performance in the transfer of large containers between delivery trucks and terminal building with a minimum of downtime – over a wider variety of container sizes. Entire operation can be accomplished by one operator, and personnel safeties have effectively prevented lost-time work accidents.

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