

Prepared For :  
**SKF Magnetic Bearing**

The logo for ASE systems is centered in the upper half of the page. It features the word "ASE" in a large, white, sans-serif font, with the word "systems" in a smaller, white, lowercase sans-serif font directly below it. The text is set against a circular gradient background that transitions from a light blue at the top to a darker blue at the bottom. This circular element is partially enclosed by a larger, teal-colored shape that curves around it from the top and right sides.

**ASE**  
systems

# Case Study

LIFT, ROTATE, AND CARRY  
LOADS UP TO 365 LBS



## Load Specifications

- Load Type: Stack of Metal Plates
- Weight: 176-365 LBS
- ID Sizes: 6.04”, 7.5”, 9.5”, 10.5”

## Application Analysis

The stack of metal plates must be lifted from a crate 4 inches above floor level and carried 3 to 5 feet and placed on another cart in a horizontal orientation.

- Pick up point: From a crate at 4” above floor level
- Distance of travel: 3-5’
- Place Point: On a cart in horizontal orientation
- Load Rotation: Yes, 90°
- Ceiling Height: 20’
- Overhead Obstructions: None
- Environment: In door ambient temperature

## Handling Issues

The client’s handling cycle consists of lifting a stack of metal plates. When the stack arrives at the client’s facility, they are sitting vertical in a wood crate at about 4” from the floor. The stack is lifted from the vertical position, rotated 90° and placed on a cart to be sent to the machine room where additional machining and finish work is performed. After machining, the plates are placed back on a cart, moved back to the packing station where the cycle is repeated in reverse. The operator was having to handle one plate at a time when moving them from the crate to the cart which was taking an unsustainable amount of time.

# The Solution

ASE specified a hoist-based air powered ID gripper tool designed to be supported from the client's existing overhead crane. The hoist-based tool (HBT) included gripper arms intended to grip the stack from the inside dimension and to lift & rotate the stack from vertical to horizontal. The tool utilizes compressed air cylinders to achieve the grip and rotation functions. Attach and release controls are located on an articulated hand assembly that provides additional ergonomic value when lifting loads close to or at floor level. The HBT tool enabled the safe & precise handling of each stack of plates and met the client's requirement for a quick and easy handling solution. HBT tools are available in capacities ranging from 30-lbs up to 10,000-lbs. Tooling options include ID expanding mandrels, OD gripper pads (pictured below), cradles, forks, hooks and scissor type grippers. This ergonomic lift assist technology reduces fatigue, improves safety and increases productivity.

## Key Technologies

Hoist-Based Air Powered OD Gripper Tool

