

PIT-MOUNTED LIFT FOR AIRPLANE ENGINE ASSEMBLY

SPECIALTY SOLUTION #121

AEROSPACE AND DEFENCE

- 5,000 lbs. capacity, mechanical actuation, 50" x 50", 98" vertical travel
- Lift can raise the airplane engine/cart 36" above or lower it 56" below floor level
- Smooth , synchronized, level lifting
- Lift deflection of less than 1/8"



Handling Specialty custom engineered and manufactured six pit mounted assembly stations for a major airplane engine manufacturer. The customer required that the lifts could not be visible above floor level at any time and had to provide smooth, synchronized, level lifting through the entire range of travel to prevent jarring of the engine.

Because the lift posts could not reach above floor level, the lift platform was designed to interface with the client's 36" high fixture plate. The height of the plate permits the lift platform to remain always below floor level and yet allows the engine to be lifted up to 36" above the floor. The plate also plays an important role in receiving and positioning the load on the lift.

Because jarring of the engine was to be absolutely avoided, the design had to provide both precise positioning of the lift at floor level and secure load holding at any position. To meet these objectives, ball screw actuation was selected to work in conjunction with guides on the lifting columns. The lift also features a minimal deflection rate since only a 1/8" gap was permitted between the lift and the surrounding floor.