

SELF PROPELLED PERSONNEL LIFT WITH ANTI COLLISION SENSORS FOR AEROSPACE INDUSTRY

SPECIALTY SOLUTION #202

AEROSPACE

- 1,500 lb capacity, hydraulic actuation, 72"W x 114" x 47.5" (low height), 132.5" vertical travel (180" raised platform height)
- 24" horizontal platform extension, mechanical actuation, equipped with three cushioned sensing edges: (1) horizontal - 96" long and (2) vertical, side - 24" long
- Equipped with non-contact collision sensors on both ends
- Vertical posts with cam followers attached to cart base designed to provide rigidity/stability and minimize sway during platform extension
- Joystick/PB control panels attached to the railings on both sides of the work
- Safety features include: anti-collision sensors, hand rail all four sides of work platform; safety interlocked access, gate can only be opened in lift retracted condition; safety interlocked rail height adjustment on work side of lift, hydraulic velocity fuses for fall protection, bellows skirt surrounding lift mechanism, guards for traverse wheels, beacon light, descent/traverse alarm, maintenance/emergency control box located on base

Handling Specialty custom engineered and manufactured a set of four self-propelled personnel lifts (carts) equipped with anti-collision sensors to be used to position personnel along the span of an airplane wing to complete various assembly processes.

The customer required a set of safe, ergonomic lifts that could rise and lower 11' along a track running next to the wing. The cart was also required to move 24" on the x axis, allowing personnel to get closer to the wing as necessary.

The carts travel at a maximum of 4 mph and there are two carts on each track. Handling Specialty suggested adding anti-collision sensors to the carts. These sensors would stop the traverse motion of the cart should an obstruction be placed in the cart's path.

The collision avoidance system utilized a Sick laser safety scanner at each end of the cart which was able to sense objects across the entire face of the cart. The system was set up with two anti-collision sensing ranges. The far range caused an alarm to sound and triggered the cart to slow down its travel speed until the obstruction was removed, or the cart entered the second sensing range. At that point, the cart would stop and movement was halted until the obstruction was cleared.

