

**APPLICATION SOLUTION: Flight Simulation Training Pod**



**Product Family:** Electric

**Product Used:** MXE Solid Bearing Screw Actuator

**Product Type:** Standard

**Application Requirements:**

**Stroke:** 40 inches

**Speed:** 3.5 in/sec

**Load:** 50 lbs

**Moments:** MX: 150 in-lb; MY: 100 in-lb

**Motion Profile:** Trapezoidal

**Application Description:**

Open and close door panels on a Flight Simulator

**Challenge:**

For proper operation, flight simulators rely on actuators not only for the performance of the simulator movements but also the opening and closing of the pod entry door panels. This training pod required the operator to manually lift the door while climbing into the simulator and closing the door once inside the pod. Not only did the manual closing of the door panels cause excessive vibration, it made the operator prone to injury from the awkward body position required to close the doors. Precise control over the speed and travel of the door panels was required to eliminate personal injury and damage to the simulation equipment. The solution also needed to be easy to program for multi-axis operation.

**Tolomatic Solution:**

The MXE40S with a 2mm ball screw lead was chosen for this application. With the 50lb load and the relatively slow speed, the MXE could maintain a consistent speed for controlling multiple actuators simultaneously. The panel doors could easily come to a controlled stop when opening and closing, reducing wear and personal injury.

**Customer Benefit:**

- Increase safety for operators
- Reduced damage to machine
- Low-cost to automate
- Easy programming for control engineers