Ingress and Egress System for F-16 Flight Simulator

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LOCKHEED MARTIN

Project Background

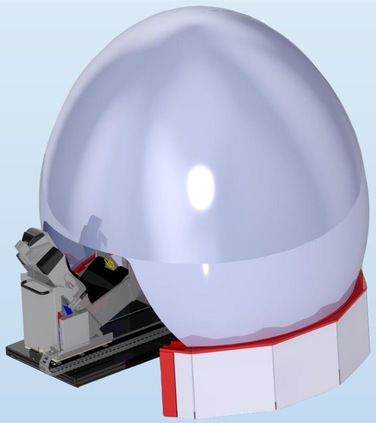
The purpose of this project is to support pilot training through the design of a system to improve the way pilots get in and out of F-16 cockpit simulators.

Motivation

Lockheed Martin's current simulators require pilots tomaneuver over the walls or through the rear exit, climbing over expensive components in the simulator.

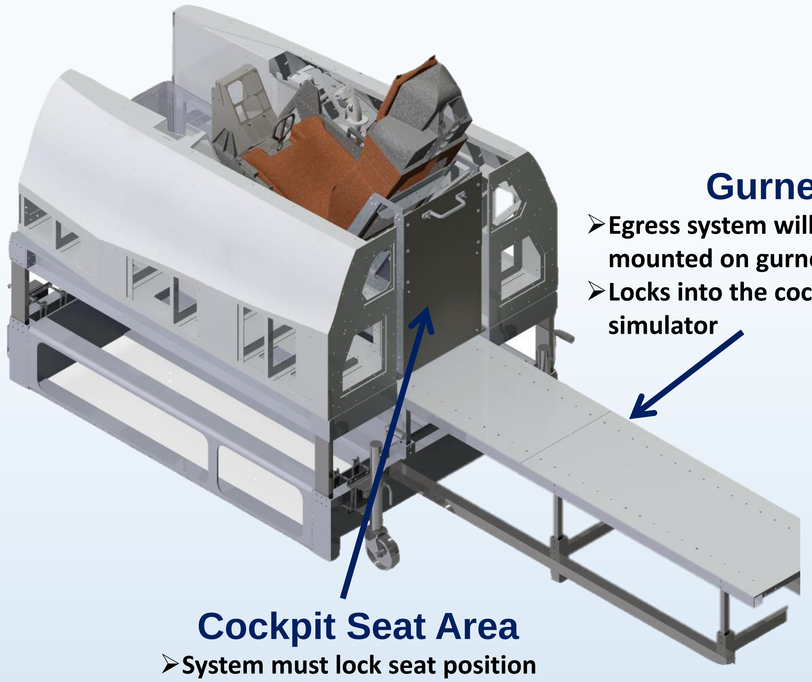
Objective

- Move cockpit seat fully into and out of cockpit
- Egress seat 73 inches
- Allow use by 5th percentile female and 95th percentile male
- Attach to existing cockpit-gurney system
- Operable during emergency situations (fire/loss of power)
- Stay within $2,000 budget



Dome cockpit simulator, currently used in pilot training. The ingress/egress system will be designed to be implemented with this simulator

Design Constraints



Gurney

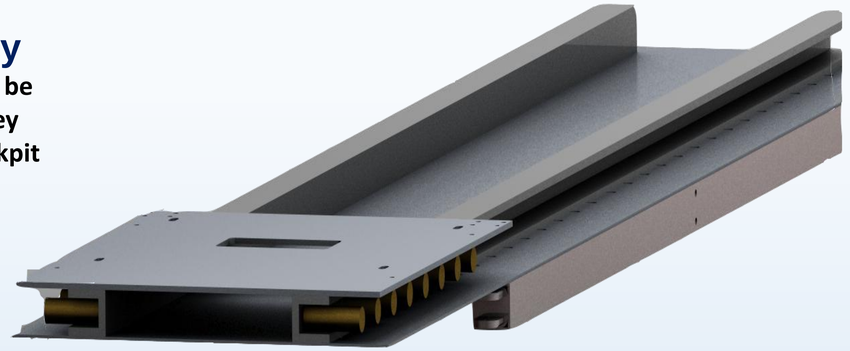
- Egress system will be mounted on gurney
- Locks into the cockpit simulator

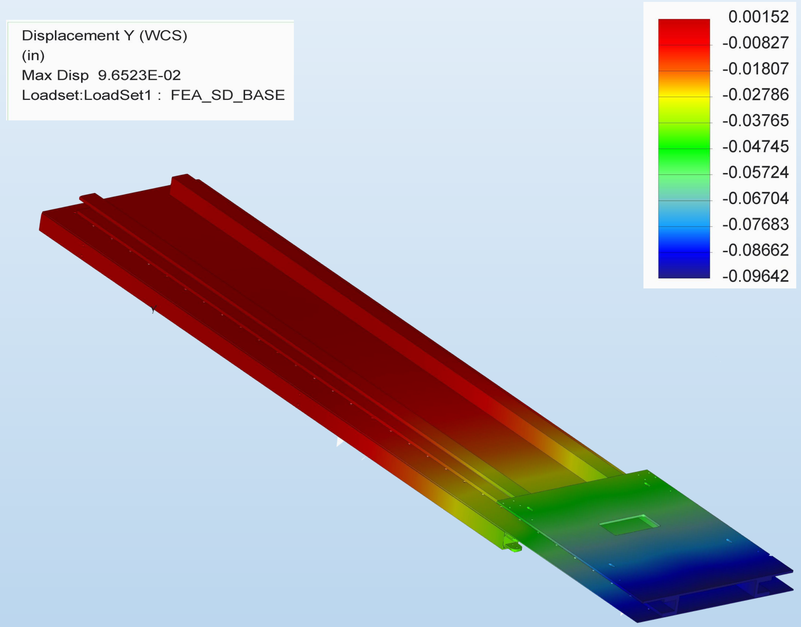
Cockpit Seat Area

- System must lock seat position here

Intended Design

The flight simulator ingress/egress system will utilize an electric motor to drive the seat. The seat will be mounted to rollers which will fit into steel C – beams to guide the seat along the path.





Future Work

- Finalize design for transporting/guiding
- Finalize CAD
- Order all necessary components
- Begin prototyping

Acknowledgements

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