



# UNITED STATES COAST GUARD ACADEMY



## Brow Attachment Pivot System

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### Problem Statement

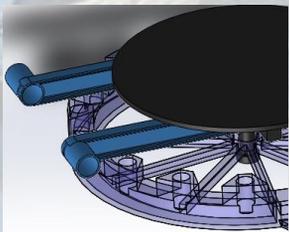
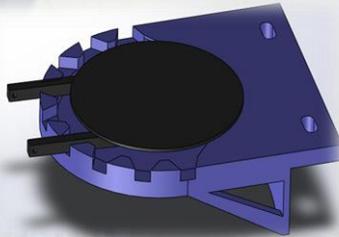
USCGC EAGLE's primary missions are training and public affairs. Each port brings its own set of challenges for the brow setup with different varying pier heights, pier width restrictions, and pier obstructions. Geographical challenges can also arise with varying tidal ranges. These issues greatly hinder EAGLE's public affairs mission effectiveness. Having tours closed for safety concerns causes less people to enjoy and learn about the mighty training Barque EAGLE.

### Objectives

- Improve overall safety of transiting on and off Eagle
- Reduce cost of mooring to pier
- Height adjustable (0'-19')
- Horizontally adjustable (12'-26')
- Simple, logical and quick set-up and disassembly
- When stowed takes up minimal storage space
- Complies with all safety regulations
- Can withstand environmental conditions
- Can hold required supporting weight
- Maximum weight of the system being no more than 1000 lbs

### Initial Ideas

First Iteration:  
Functionality



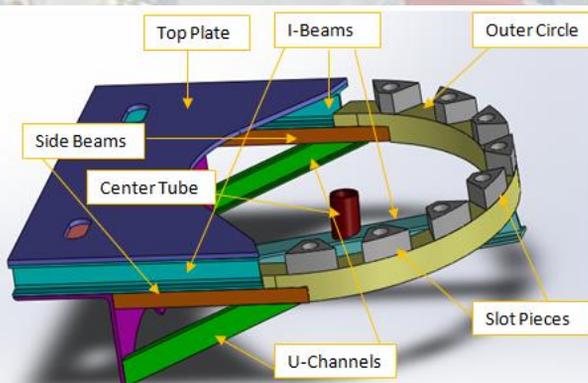
Second Iteration:  
Weight Reduction

### Final Design

Final Design Specs:

- 7 different angle positions from the ship
- Gravity holds the platform in place

- Approx. Volume: 41.5" x 35" x 4.25"
- Material 6061-T6 Aluminum
- Approx. Weight: 150 lbs.



Third Iteration:  
Manufacturability

Sponsor Contact:  
BMC Brown, USCGC EAGLE