

## University Students Design Gantry with PBC Solution

### Setting the Scene

An aircraft maintenance facility in Michigan needed linear rails for a gantry to remove auxiliary power units (APUs) and transport them to a maintenance cart for repair. They presented this as a senior design project opportunity to engineering students who had the task of coming up with a realistic and cost-effective solution.



### The Challenge

The existing gantry did not provide easy traverse from the aircraft to the maintenance cart. The senior design team was requested to design an improved solution. As there was no quantifiable data provided, the ease of use of the gantry was the main goal to determine the success of the endeavor.

### The Solution

The proposed solution was parallel rails, and the designers requested information on FeatherShaft® and Redi-Rail®. Based on the need to drive manually, Redi-Rail® was recommended – the rollers provide smooth, easy, linear motion under load. Redi-Rail® was chosen primarily because the rolling element technology facilitates manual movement of heavy loads. Other key characteristics were the precision of the rails and the adjustable preload.



**redi-rail®**

### Products Used

Redi-Rail® was an ideal solution due to its light weight, availability in long lengths, and roller-based technology. The Redi-Rail® are fastened in parallel to support framework. The sliders are attached to a holding fixture. The APU is removed from the aft section of the aircraft, and then moved via the rails to the maintenance cart for work. Once the maintenance is complete, the process is reversed.

**PBC**  
**LINEAR**  
A PACIFIC BEARING CO.

888-839-5693  
[www.pbclinear.com](http://www.pbclinear.com)