

Lightweight Composite Tilty-Tray Sorter



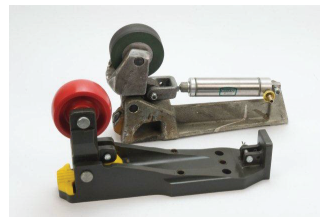
Situation

A large parcel company faced with the question of what to do with its almost 20-years-old, aging tilt-tray system. Each sorter line, between 800-1,200 feet long, was increasingly becoming difficult to maintain. The acquisition of parts was becoming more expensive and more difficult to secure. Downtime was a major concern, along with system reliability, and the support of such an old system of paramount importance. At that time, there were 100+ systems in operation at 20+ large sites. Completely

replacing each system would cost between \$5-\$7 million and take over 6 months to accomplish. The company could not afford to take each system down for such an extended period of time, nor shoulder such a large financial burden.

Globe's Solution

Here at Globe, we were able to take the existing aluminum carriage and create a part made of composites. Globe engineers designed the lightweight carriage to fit in the existing system's metal track and to be interchangeable completely with the existing aluminum carriages. The new composite carriages are 30% lighter in comparison with the former aluminum ones and their highly concentric wheels greatly reduce rolling friction. In addition, Globe designed and produced composite tip-up actuators, composite track (in 12 foot sections), and a patented composite drive chain. Globe designed the components to be fully compatible with the existing induction stations and used the current drive system, effectively reducing the cost of each system's upgrade. Since the components are modular, it's relatively easy to install. Consequently, demolition and re-installation for this customer took only 21 days.



Benefits & Results

Globe has overseen the installation of 40+ tilt-tray systems for this customer. As a result, our customer has achieved impressive performance results, such as:

- 15 dB reduction in noise levels
- 15% increase in sortation speed
- 29% reduction in energy consumption
- 80% reduction in downtime associated with system jams
- \$125 million in savings compared with complete replacement of system.