

Sequenced Parts Delivery System

Johnson Controls Inc - Whitby, Ontario Facility

Project Overview:

Mainway has extensive and proven experience in automated trailer and pallet handling systems.

The Line:

Pontiac Grand Prix Cockpits for General Motors Oshawa

The Situation:

JCI required the ability to load and unload a trailer with 18 sequenced cockpits in a time frame of 5 minutes.

The Challenges:

Condensed time required to load and unload the product.

Space limitations within the trailer.

Weight of product: 1200 lbs per pallet.

Ability to unload product using a forklift, as well as automatically.

Product orientation during transport.

Protection of equipment from potential damage of forklifts and products.

The Solution:

Mainway supplied a Twin Strand Triplex Chain Conveyor System. This system was designed specifically for the harsh environment of the automotive industry. The system incorporated ¼" thick welded and interlocked conveyor frames, welded support frames and full length pallet guides.

To further protect the chains from damage during transportation of the product, the system uses air bags to raise and lower the chains. During automated loading and unloading the chains raise to convey the product on or off the trailer. During transportation or forklift loading and unloading, the chains are retracted below the supporting frame work.

The cockpit pallets rest on the supporting frame during transportation, preventing the cockpit pallets from sliding or skidding during transportation. The supporting frame also acts as a forklift guide to prevent damage during the manual load / unload process. For ease of maintenance, the drive units of these systems are located below the trailer floor and enclosed by a stainless steel shroud.

The Results:

Mainway Handling Systems was awarded the contract to supply and install a state-of-the-art First In/First Out (FIFO) system to integrate with an AGV loading system. Mainway's solution exceeded all of JCI and General Motors objectives for Just-In-Time (JIT) delivery of cockpits to the assembly plant.