

Sequenced Parts Delivery System

Polycon Industries Of Guelph, ON – A Division Of Decoma

Project Overview:

Mainway's reputation for quality workmanship and extensive experience with fascia handling won the Polycon contract.

The Line:

Fascias (bumpers) for Ford Crown Victoria and Mercury Marquis.

The Situation:

Polycon needed to store bulky and painted bumper fascias in less than 8,000 square feet of warehouse space. The bumper fascias then needed to be assembled and shipped for Just-In-Time (JIT) service with fully sequenced delivery to Ford's assembly line in St. Thomas, Ontario.

The Challenges:

Just-In-Time (JIT) sequencing for a variety of car models.

Severe space limitations, requiring very dense storage.

After painting, delivery of fascias to the storage system, then to the assembly area for shipping.

Handling a fully finished fascia without damaging painted surface.

The Solution:

Mainway designed and installed a four-level, 32-foot-high mezzanine, along with seven different types of conveyor systems, to seamlessly carry the painted bumpers from the paint line to the assembly line.

A vacuum-formed plastic tray was developed to hold individual fascias.

An overhead monorail conveyor transported the fascias from the paint line to the mezzanine.

Personnel walkways for loading and unloading surround the mezzanine structure.

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The Solution:

Bumpers were manually loaded onto plastic trays and then stored in one of 112 storage lanes (pneumatically controlled minimum pressure gravity flow conveyors).

Order pickers retrieved the fascias in a sequence dictated by the auto assembly plant's build schedule.

Fascias and slave pallets were transferred to standard powered belt conveyor. *(This fed into "The Water Slide," a spiral table-top chain conveyor system which efficiently brings parts down from all four levels within space constraints. The "Water Slide" feeds into four short accumulating gravity flow conveyors which deliver the fascias to the assembly line. A Gravity Roller Conveyor that feeds a vertical chain conveyor serves as a bypass system to supply replacement bumpers for blemished or out of sequence fascias. Slave pallets are returned to four mezzanine storage levels using Powered Roller Conveyor in-feeding a reciprocating vertical conveyor.)*

The Results:

Mainway's low maintenance In Line Vehicle Sequencing System requires only two loaders and two pickers and has run successfully at Polycon since October 1997.

