Automation Steers Safe Delivery of Automotive Components

Features and Benefits
Reduced Labor Costs

Improved Safety Through Reduced Fork Truck Traffic

Improved Production Efficiency

Flexible Solution for Plants Changing Production Demands

Safe, Reliable Delivery of Components

Industry Group: Automatic Guided Vehicle Systems (AGVS)

The flexibility of the AGVS allowed for seamless integration with plant equipment

A new model year for a large automotive assembly plant called for a “wall to wall” retooling effort. The plant needed a solution to reduce labor costs and improve safety by reducing fork truck traffic, all while maintaining a line speed of 81 jobs (completed automobiles) per hour.

In order to address these needs, a fleet of forty-five Automatic Guided Vehicles (AGVs) was installed to handle racks of automotive components, instrument panels and auto body parts. The fleet consisted of fifteen Conveyor Deck, fifteen Tugger, and fifteen Autocart AGVs.

The Conveyor Deck Vehicles transport racks of engines, shocks, struts, & suspensions from receiving dock conveyors and delivers them to indexing line side conveyors within the Trim/Chassis Final (TCF) area of the plant.

The Autocart AGV also operates in the TCF area of the assembly plant and transports racks of instrument panels from the automated receiving dock to line side conveyors, and is also responsible for returning empty racks. At the dock stripping equipment which consists of a robotic arm loads and unloads powered over-the-road trailers, and places

materials directly onto the Autocart AGVs.

The Autocarts also interface with accumulation conveyors at each line side operator station.

Finally, the Tugger AGVs transport racks of auto body components from the ASRS in the Body-in-White (BIW) area to line side positions in the Trim/Chassis Final area. When at the line side drop position a forklift operator unloads full containers from the Tugger trailers and replaces them with empty containers. The Tugger AGV then travels back to the ASRS area to deliver the empty containers

Because the AGV system is so flexible it was easily integrated with plant equipment, and allows for completely automated movement of automotive components with no human intervention, from the time material is received until it is delivered to the assembly lines.

Through use of the AGV system the company was able to improve production efficiency while reducing operating cost.

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