

# VELOCITY VIDEO CASE HISTORY

## A DC VELOCITY SPEED CHALLENGE

### Auto-mation

Installing an automated storage and retrieval system along with Sorting Transfer Vehicles and specialized pick stations has improved handling and productivity at Piolax, a supplier to U.S. automotive plants.

THE MANUFACTURING OF TODAY'S AUTOMOBILES requires thousands of parts, each of which must be created to exact specifications. To distribute these components, parts manufacturers need material handling systems that also provide the precision needed to keep products moving quickly and accurately.

Piolax is a leading provider of original parts to many top automotive companies, including Nissan, Honda, and General Motors. The Japanese-based company operates a manufacturing plant in Canton, Ga., that provides mold-injected plastic parts, metal springs, clips, coils, harness ties, and other interior trim components to auto plants throughout North and South America.

Business has been brisk. The Canton plant produces around 10 billion pieces annually, and that number is increasing substantially year over year. As a result, its former distribution facility was over capacity and a new building was needed. The problem was that there was not much land available to build a conventional warehouse adjacent to the production plant. Managers at Piolax determined that it could only be done through automation.

"We realized we could go fully automated and still have enough space for the next 20 years," says Daniel Cumana, distribution manager. "The automation allows us to stay close to our manufacturing plant. We have the ability to pull parts from our machines that are still warm and ship them to our customers."

#### SMALL FOOTPRINT, BIG GAINS

The new building, which opened last year, has a footprint of just 92,000 square feet. The automation covers nearly half of that. At the heart of the facility is an automated storage and retrieval system (AS/RS) serviced by Sorting Transfer Vehicles – all supplied by Daifuku Wynright.

Trucks deliver metal parts from manufacturing to the distribution center, while lighter-weight plastic parts are brought in using pallet jacks. The receipts are scanned and dropped at pickup stations, where the seven Sorting Transfer Vehicles (STVs) gather them for putaway into the AS/RS. Prior to entering the STV area, pallets are placed onto pallet boards

that allow different-sized pallets to be transported, thus standardizing the process. The STVs run in a loop throughout the automated areas. The five-crane AS/RS contains storage for 5,632 pallets arrayed on eight levels. Piolax also uses Wynright's Wynsoft Warehouse Rx software to control the automation, which interfaces seamlessly with Piolax's SAP software.

As product is needed for orders, cranes pull the pallets and deliver them to stations where they transfer to the STVs. The shuttles then

transport them to five picking stations, where they are automatically discharged and become source pallets for picking. Video monitors mounted overhead combined with wrist-mounted scanners are used to direct case picking from the source pallets to 10 other pallets staged to receive customer orders. Only 16 man-hours are required to pick the 120 pallets processed per day on average. In the old warehouse, it took up to 40 hours to perform picking. The STVs take the source pallets back to storage if product has not been completely exhausted on them. Next, forklifts pick up the order pallets and take them to nearby loading docks, where they are audited and

wrapped for just-in-time delivery to the automobile plants.



#### PRODUCTIVE PARTS PROCESSING

The AS/RS and STVs handle over 7,000 cases daily at Piolax. Managers appreciate that the equipment operates very quietly compared with other automated systems. Use of the automated storage and the Sorting Transfer Vehicles has also allowed the company to cut its forklift fleet in half, from 16 vehicles to eight.

"The automation has worked really well," says Cumana. "Our material flow has changed, and many of our processes have become more efficient as a result. Assimilating into this building has been a better experience than I anticipated."

Cumana adds that Daifuku Wynright was chosen to supply the automation due to the positive experience Piolax has had in Japan with Daifuku equipment, including systems that have been operating for more than 30 years. "It was attractive to us to have the Cadillac of hardware, but still have domestic support with Wynright. We are much more efficient and productive today than we were six months ago."

To see a video of the automated systems at Piolax, go to [dcvtv.com](http://dcvtv.com) and click on Channel 2.