

BENCHMARK BRIEFINGS



SITE
 Central Florida Toyota
 Orlando, FL

APPLICATION
 Automated retail, wholesale and repair shop parts department

EQUIPMENT
 Vertical Carousel, Shuttle® VLM, FastPic® Auto with Reynolds & Reynolds

SUMMARY
 Small parts and bulky bins are replaced with vertical storage systems to reduce floor space and construction costs



A Kardex Remstar vertical carousel and Shuttle VLM, both almost 24 feet tall, span the facility's two levels maximizing vertical cube space.

Automated Equipment Saves United Auto Group 87% Floor Space

When United Auto Group (UAG) designed Central Florida Toyota, a highly efficient service department was at the top of their list. Instead of building a large parts department, UAG used the building's height to their advantage and installed two high density vertical storage systems. A Kardex Remstar vertical carousel and Shuttle Vertical Lift Module (VLM), both almost 24 feet tall, span the facility's two levels maximizing vertical cube space.

With a variety of service parts to keep on hand, Central Florida Toyota installed two machines; a vertical carousel to store small parts and a Shuttle VLM to store the bulkier items and cases. When combined, the Kardex Remstar vertical storage units hold the equivalent of 120 sections of storage bins. The automated units occupy only 203 square feet while bins would have required up to 1,540 square feet of floor space realizing a space savings of 87%.

The vertical carousel utilizes a series of carrier shelf levels which rotate around and are presented at a convenient work counter to the operator. To make picking parts even easier, the machine utilizes pick lights to indicate which tote the operator should pick from. This allows the operator to pick parts quickly and accurately instead of walking and searching through rows of bins for a particular part they need.

The Shuttle VLM uses a series of vertically arranged trays which are automatically stored and retrieved using an extractor. Trays are presented to the operator in the pick window for the operator to pick or store a part. Each tray is individually scanned with a height sensor and automatically placed in the least amount of space

possible. This allows the operators to store various bulky objects and cartons quickly and easily. The VLM also utilizes pick lights to direct the picker to the correct area, case or item to pick on the tray.

The parts department at Central Florida Toyota has three primary types of parts business: retail counter orders, wholesale orders and repair shop orders. This busy parts department runs seven days a week and generates \$500,000 worth of service parts business monthly. Approximately 3,500 part numbers representing almost \$200,000 are stored in the vertical storage units. This is roughly 57% of the service department's total parts.

The retail business processes approximately 900 customer orders per month and uses three counter people to generate approximately \$45,000 of monthly revenue. One representative and three drivers fill 750 wholesale orders which account for approximately \$125,000 of monthly revenue. The service repair shop business uses three back counter people and generates 4,000 orders worth \$350,000 per month. There is also one dedicated runner/stock person who replenishes and helps pull orders where needed. Combined, this 11 person parts department generates over 56,000 invoices and \$6 million per year in a parts department only 10,000 square feet in size.

Tuned Up For Performance

At Central Florida Toyota, parts orders are entered into the Reynolds & Reynolds software from the retail counter, service shop or wholesale distribution office. The R&R software holds the store's



The control screen indicates the quantity to pick and pick lights direct the picker to the exact location of the part.

Replenishment is handled the same way as picking, but in reverse. Items are scanned into the FastPic Auto software. The operator enters the part quantity and FastPic Auto generates a storage location within one of the automated systems. At any time the operator can override FastPic Auto and store the part in a preferred location. After the location and quantity have been verified, the automated equipment moves to the correct shelf or tray and the pick lights show the operator where to place the item. Once done, the operator hits the task complete button and moves on to the next part to store until replenishment is complete.

From the store's small parts to its bulky inventory, Kardex Remstar's automated storage solutions, FastPic Auto and Reynolds & Reynolds have helped Central Florida Toyota to not only save floor space, but keep happy customers coming

total inventory while the FastPic Auto software holds all the part locations and directs optimized picking and replenishment activities in the vertical storage systems.

The FastPic Auto workstation is centrally located between the two vertical storage systems. After an order is entered into the R&R software an electronic pick ticket is sent to FastPic Auto which organizes the picks for maximum efficiency and automatically positions the automated equipment for the first pick.

The vertical carousel spins into position and the pick lights direct the operator to the exact location of the part that needs to be picked. The quantity to pick is displayed on the control screen located above the pick window. When the pick is complete, the operator hits the task complete button on the unit and the unit rotates to the next pick. The pick lights will indicate the next pick until the entire order is complete and ready to go.

Similar to the vertical carousel, when an order requires a part stored in the Shuttle VLM, FastPic Auto optimizes the pick sequence and directs the VLM to present the first tray needed to the operator. The controls screen indicates the quantity to pick and pick lights direct the picker to the exact location. When the operator completes the pick they hit the task complete button and the VLM automatically retracts the tray from the pick window and the next tray is presented for the operator to pick the next part in the sequence. Each time a tray is returned to the VLM the height of the tray's contents is scanned to determine the least amount of space required to store the tray to maximize the storage density. When the last pick is completed and the task complete button is pushed, the VLM stores the tray for safe keeping and another tray is not presented to the operator indicating the order is complete.

"By having a large percentage of the inventory accessible on one level, pickers don't have to wind through rows of bins or climb steps to the floor above," said Larry Morgan, parts manager. When completed, the order is brought to the retail or shop counter or wholesale area ready for delivery.



After an order is entered into the Reynolds & Reynolds software an electronic pick ticket is sent to FastPic Auto which organizes the picks for optimized efficiency and positions the equipment for the first pick.



The automated units contain the equivalent of 120 bins which would have required 1,337 square feet in additional floor space.