

# BENCHMARK BRIEFINGS

**kardex**remstar

## SITE

American Crane & Tractor Company  
Kansas City, KS

## APPLICATION

Distribution of aftermarket parts for overnight or two-day service

## EQUIPMENT

Two pods of three Kardex Remstar horizontal carousels double stacked, tiered integrated with FastPic® WMI software & Pick-to-Light technology

## SUMMARY

Using multiple zone picking has doubled picking efficiencies, increased accuracy rates and shortened customer order turn around time



*"Improvement in order picking efficiency is a never ending journey and we see the Kardex Remstar horizontal carousels providing a means of continuous process improvement," Hunsinger said. "Today, we never worry about getting an order picked on time for shipment."*

## Using Horizontal Carousels, Orders Are 83% Faster & Out The Door in 20 Minutes!

The American Crane & Tractor Company is thinking outside the box; changing their order picking focus from picking orders to picking parts. With improvements in picking efficiencies and accuracy rates they have shortened customer order turn around time and managed to change the way customers think about American Crane.

Located in Kansas City, Kansas, American Crane manufactures and distributes aftermarket parts for Caterpillar® equipment. "We are in the business of getting the right parts to the customer when they need them," says Terry Hunsinger, inventory control manager. It is critical to their operation that they get part orders shipped the day they are placed by the customer, often using overnight or two-day shipping services.

Previously, American Crane used standard mezzanine shelving, pick carts and paper pick tickets to fill orders. Order pickers criss-crossed the warehouse, moving from storage location to storage location searching for parts to fill an order. When the order was complete they would bring it to shipping and start on another order, often retracing their steps over and over.

American Crane realized that they could not sustain their current growth rate regardless of the number of order pickers they added to the staff. "We couldn't throw any more bodies at the situation without people tripping over each other, at peak times demands were just too great," said Terry Hunsinger.

### A New Approach...Picking Parts, Not Orders

American Crane went back to basics and implemented the old saying "work smarter, not harder." Instead of having order pickers focused on picking one single order, they decided to change their focus to picking parts. Using a philosophy called zone picking, they divided the warehouse into nine zones and assigned order pickers to a specific zone instead of a specific order. Order pickers now pick parts from their assigned zone not worrying about what order the part is for. Parts from each zone are then matched up at a consolidation station and then complete orders are sent to packing and shipping.

Implementing this new philosophy of zone picking required a more efficient solution for picking their faster moving parts. American Crane installed six Kardex Remstar horizontal carousels to pick the smaller, faster moving SKUs. The Kardex Remstar horizontal carousels are configured as two zones, called pods, of three carousels each, double tiered. Utilizing Pick-to-Light technology and batch picking capabilities in these two zones, American Crane has doubled their daily picking volume.

### Using the New System

Using FastPic WMI software with the horizontal carousels allowed American Crane to write a software interface specific to their



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It is imperative that American Crane ships the correct parts to the correct customer. "Integrating pick-to-light technology into the horizontal carousel zones has dramatically improved our order picking accuracy," says Hunsinger. "The carousels tell the operator what to pick and they pick it. It's very simple."

All of these changes have led to a decrease in order pick time; meaning American Crane is getting orders out the door in less time than ever before. Order pick time is the time that elapses between order entry and when the order is picked and ready to ship. "It used to take up to 2 hours to pick an average size order; today order picking time is averaging 20 minutes!"

### Slotting is a Journey

One of the keys to efficient order picking at American Crane is the strategy behind slotting inventory in the horizontal carousels so that the most used SKUs are in the most convenient locations. The company uses a banding approach - that is, those parts that are picked most frequently are stored in the golden zone area of the horizontal carousels, less frequently picked parts in the upper levels.

Restocking is performed during the second shift. Items are delivered to the horizontal carousel zones in totes and the operator restocks the items, picking in reverse.

Storing parts in the right location is key to picking them efficiently later in the process. When new SKUs are introduced they are reviewed to determine if they are carousel eligible. Carousel eligible SKUs are high volume, small to medium sized parts. "We study pick density to determine how many picks we can concentrate in one area. We try to concentrate the highest number of picks on one shelf or group of shelves to improve the efficiency of the operation," Hunsinger said.

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customers' needs. Customers place orders online or by phone. Orders are transferred into the order processing system and ranked by order characteristics such as delivery time or shipping carrier. Parts for the order are pulled from as little as one to as many as all nine workzones throughout the warehouse.

Each of the horizontal carousel zones are operated by one picker. The carousel operator inducts up to eight orders at a time and is able to pick parts for these orders simultaneously.

The light tower directs the order picker to the specific part indicating the exact location and quantity to pick. The order picker then turns around and is directed by the put lights on the batch station how to distribute the parts to the eight individual order. While the order picker is picking from one carousel the others are pre-positioning for the next pick, eliminating dwell time.

Pickers in the other seven non-automated zones use RF guns to direct them as to which parts to pick in their assigned zone. Once all parts from a specific zone are picked, the tote is sent to the consolidation area via conveyor. Once all parts from all zones arrive at the consolidation area the completed order is sent to the packing and shipping area.

### Reviewing the Numbers

The horizontal carousels store over 47% of the total SKUs (about 11,000 part numbers) and over 60% of the parts picked for an order come from these zones. "Using the horizontal carousels we have doubled our picking productivity," said Hunsinger. "The real gain is with the items stored in the horizontal carousels."

The new zone picking system only requires 22 order pickers, 25% less than the previous order picking system. Of the 22 order pickers now needed, each horizontal carousel zone requires one order picker.



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