

# BENCHMARK BRIEFINGS

**kardex**remstar

## SITE

Kubota Canada  
Markham, Ontario

## APPLICATION

Pick and pass spare parts order fulfillment

## EQUIPMENT

Six horizontal carousels, four Shuttle VLMs with pick to light technology

## SUMMARY

Kubota Canada's automated parts distribution center has doubled productivity and recovered 83% floor space with an improved order picking strategy



Kubota's parts distribution center utilizes a pick and pass strategy with six horizontal carousels and four Shuttle® VLMs to get parts in, out and to the customer.

## Kubota Fulfills Parts Promise To Customers Keeping Parts Available for 20+ Years

With an industry leading reputation for groundbreaking tractor and utility vehicles Kubota's parts promise is what keeps customers coming back. With 20+ years of legacy parts and additional inventory for new models introduced every year the parts inventory at Kubota's 60,000 square foot part center in Markham, Ontario has steadily grown to over 78,000 SKUs. "Our parts promise to our customers presents a challenge as we have to inventory quite a few parts that are only picked once a year. But when a customer needs it, we have to be able to supply it," says Doug Ward, Logistics Manager, "and the system we have in place allows us to do just that."

Kubota's parts center utilizes a pick and pass strategy with three picking zones. Six horizontal carousels from Kardex Remstar manage the fast moving SKUs; four Shuttle VLMs from Kardex Remstar house the medium moving SKUs, and the slower moving SKUs, are stored in hi-bay shelving.

### Horizontal Carousel Zone

The complete system was purchased and implemented in phases. In the first phase, Kubota purchased six horizontal carousels to replace a three story mezzanine in coordination with a building relocation. "With the horizontal carousels people are now picking parts ergonomically, there's no more

walking up and down the stairs to pick parts orders. Everything is on one floor and delivered right to the worker," says Ward.

In the mezzanine zone workers were picking an average of 20 lines per hour. "We couldn't throw any more bodies into the mezzanine zone without people tripping over each other. With parts sales growing we needed to pick faster," said Ward. Now, one person working in the horizontal carousel zone picks an average of 225 lines per hour while bagging and tagging. "We were able to increase our picking productivity by over 90% and only need one worker to manage the carousel zone," said Ward.

The mezzanine at the old facility was three floors and occupied 9,000 square feet (3,000 sq ft per floor). The horizontal carousels in the new facility required 71% less floor space. Including the workstation, picking area and the six 24 foot long horizontal carousels the picking zone occupies 2,600 square feet and the parts are all on one floor.

### Shuttle VLM Zone

The second phase of the picking system was the Shuttle VLM zone. "We were out of space and considered a building expansion," says Ward, "The Shuttle VLMs allowed us to free up floorspace and avoid a costly building expansion."



“Along with increased part capacity and improved ergonomics, picking productivity in the VLM zone has doubled,” says Ward.

Kubota started by installing two Shuttle VLMs to replace 2,400 sq feet of 18’ hi-bay shelving. Shortly after, two more Shuttle VLMs were installed to replace 1,200 sq feet of 24’ hi-bay shelving. With the workstation, picking area and four VLMs now occupying 620 square feet, Kubota was able to free up just under 3,000 square feet of floor space to increase parts capacity; an 83% floor space savings.

“Along with increased part capacity and improved ergonomics, picking productivity in the VLM zone has doubled,” says Ward. With only one worker in the zone and eliminating travel time to the part locations, picking productivity has increased by 50%.

### Paper Picking Mezzanine

In the original system, all orders started at top of mezzanine shelving area. Workers picked the parts required for the order and carried the order down to the second floor to pick any parts required before traveling to the ground floor to finish picking from the mezzanine area. Once they had all the parts the needed from the mezzanine area they continued to the hi-bay shelving area to complete the order and then dropped it off at shipping.

### New & Improved Zone Picking

The new system continues to use a pick and pass strategy, but has three picking zones. All orders start in the horizontal carousel zone. Orders are prioritized at order entry and priority orders that must ship the same day are sent to the top of the list.

The worker inducts up to eight orders into a batch and with the click of a button the horizontal carousels spin to position for the first pick. Pick to light technology directs the worker to the exact location of the desired SKU and displays the quantity to

pick. The worker picks the specified quantity and distributes the quantity among the batch of orders as directed by the put lights. The picks are organized so the next pick is always ready, eliminating wasted wait time. The worker picks round robin until all parts required from the horizontal carousel zone have been picked.

Completed orders are routed directly to shipping; remaining orders are routed to the next zone for further fulfillment. The Shuttle VLM zone works the same way; the worker picks round robin from the four VLMs and distributes the SKUs among the orders. Once the orders are fulfilled from the VLM zone they are sent to the hi bay shelving zone for further fulfillment or to shipping.

Using a man-up order picker with a custom batch cart, the remaining slow moving SKUs are picked from the hi-bay shelving zone. When the order is complete the worker is notified on a handheld RF gun and the operator delivers the completed orders to shipping.

### Room for Growth

Part sales have grown steadily while labor requirements have only increased by 27%. “With the automation and process changes we’ve implemented, we’ve been able to manage 70% growth in the past 12 years with minimal increases to our labor force.” said Ward.

The parts center is ready for whatever new model Kubota dreams up next. “With inventory growing every year, the automated picking system we have in place has the capacity to sustain our growth for the next 5 – 8 years,” said Ward.



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