

Crown Saves Manufacturing Costs via RFID

The lift truck maker says the new system enforces more discipline among factory workers when it comes to checking out and restocking tools.

By Claire Swedberg

Nov. 10, 2006—[Crown Equipment](#), a manufacturer of electric lift trucks, saves \$200 to \$300 per day on costs associated with lost and unrestocked tools, thanks to an RFID portal that tracks the movement of items from drill bits to rubber gloves. Crown installed its first [WinWare CribMaster Accu-Port](#) at the tool crib—akin to a moveable closet for tools—at its New Bremen, Ohio facility (one of its five manufacturing plants) in June. The system been so successful that the manufacturer installed a second portal at the same site this month. Crown's supervisor, Brenda Hughes, says the company hopes to have 10 portals throughout its five facilities by 2010.

At the New Bremen plant, production is underway 24 hours a day, seven days a week. However, it's too costly to have a crib supervisor manage the allocation of the plant's 10,000 tools for each shift. Before implementing the Accu-Port, employees loaded tools they thought they might need onto carts, which they then rolled onto the production floor. There was no accountability as to which personnel took any particular tools, the majority of which are disposable, nor was every tool taken actually used during a shift.



Kelly Mahan

Furthermore, employees who couldn't find a tool would often place a card in a box on the cart, indicating it needed to be reordered—even though that tool might actually be in stock somewhere on the floor, but not immediately locatable. As a result of such frequent reordering, the company wound up with an inventory surplus.

The CribMaster Accu-Port allows the company to track which personnel took which tools from the crib. It provides a physical portal into a wire tool crib, where tools are hung; the portal has an antenna above the door and one on each side. About 70 to 80 employees need access to tools during any given shift. Each one carries a badge embedded with a Gen 2 UHF RFID tag.

An employee who wants to access the crib must access a touch-screen computer attached to the portal, entering either the description or ID number of a specific tool to find its location in the crib. The worker

then walks through the portal, where the RFID interrogator recognizes the unique ID number in that person's badge, causing the crib door to unlock automatically.

The tools themselves are packed in plastic bags, each containing a card listing the tool and its description. A Gen 2 RFID tag is attached to the back of every bag. "Everything is individually packaged with its own RFID tag," Hughes says. "If you need two pairs of gloves, you have to take two packages." As an employee leaves the crib, the reader captures that person's badge number and the RFID number for that tool bag.

This data is directed through a LAN connection to the Crown ERP system, using WinWare's CribMaster software. There, the RFID number of the bag and the employee can be linked with the tool, enabling Crown management to track which personnel have used which specific tools during their shift, as well as determine whether they may, for example, be using too many tools.

An employee leaving the crib removes the tool from the bag and places the bag, with the RFID tag still attached, into a box for reuse at a later date. This saves Crown the cost of replacing RFID tags with every tool. "They cost about 50 cents each," Hughes says of the passive RFID tags.

Stocking personnel later retrieve the bag, refilling it with similar tools. When restocking the crib, an employee can carry as many as 30 tagged items into the crib at a time, with all ID numbers captured simultaneously.

According to Crown, the system has proven to reduce tool usage, as personnel are more conscious of what tools they remove and, consequently, don't take more than they need for a job. CribMaster also increases security by making it impossible for individuals to steal tools, says WinWare's marketing services coordinator, Kelly Mahan—and rather than having to load tools onto carts, or record tools as they come out of the crib manually, she says, "They can take their tool and get right back to work."

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