

# GROCERY HEADQUARTERS

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## Need a lift? Forklifts have been revamped to enhance comfort, safety and reliability.

*By William Epmeier*

THEY MAY NOT LOOK MUCH DIFFERENT THAN THEY DID 10 YEARS AGO, but forklift trucks have gotten a complete makeover in recent years as manufacturers respond to the fast-changing warehousing market.

Speed, comfort and reliability top the improvements that are being made to the forklift family of equipment, which includes pallet and counterbalance trucks, order-pickers, reach trucks and various types of walkies.

"We recognize that the grocery industry is one of the harder users of lift trucks," says Greg Mason, general products manager at Jungheinrich Lift Truck Corp., a lift truck manufacturer in Richmond, Va. Grocery chains and wholesalers, he notes, operate on low margins and push high inventory turnover through their distribution centers. The result is that they insist on high performance out of their lift equipment and low operating costs.

One result of this business approach is an emphasis on speed in all aspects of the picking, transport and putting away of merchandise. Throughput is the name of the game, and because worker pay is partially based on productivity, good acceleration and relatively quick trucks are important to operators, especially in larger warehouses.

Speed is important not just horizontally, but also vertically. For example, The Raymond Corp. in Green, N.Y., introduced a feature that allows operators to preprogram up to 50 different height levels into its reach trucks. "This allows drivers to raise their forks to get to the right pallet opening quickly," explains John Colborn, director of marketing for reach products at Raymond. He notes that reach trucks are becoming more popular in warehouses because they can operate in narrower aisles than counterbalanced trucks, and they are able to reach to higher rack levels.

Cameras are also being added by many manufacturers to reach trucks so that drivers can see the slot better on a monitor on the truck dash. The camera is located on or

near the forks, so the operator gets a close-up view of the opening as he guides the pallet into the slot. Cameras also allow workers to spot broken pallet boards that may interfere with the forks when picking up loads. Another related option, Colborn explains, alerts operators to misaligned forks that can damage merchandise.

**The overall result is improved productivity, observers note. "When you get more visibility, you increase the number of pallets moved per hour," explains Lou Micheletto, products manager for Yale Material Handlings Corp., Greenville, N.C.**

### Creature Comforts

All manufacturers are devoting a lot of attention to making the operation of forklifts more comfortable for workers. "Productivity is the number one concern when we talk with users about what they want from their material handling equipment, and comfort is usually further down the list. We think, however, that comfort goes hand in hand with productivity," explains Mason of Jungheinrich.

George Marshall of Hyster Corp. in Greenville, N.C. agrees: "In an eight-hour shift there's a falloff in productivity of 25% to 30% during the last hour. The challenge is to give the operator the least reason to be fatigued." Among the adjustments that Hyster is making to their equipment is to provide more room in the drive compartment for taller and heavier workers. Another is to introduce electric power-assist steering in many of their models.

**Yale has made the tiller, or steering column, adjustable on its equipment to accommodate heavier-set employees.** All manufacturers are adding better suspension, softer seats and back, hip, knee and arm supports to prevent worker fatigue either on sit-down or stand-up equipment.

Because many grocery warehouse workers operate in refrigerated or frozen food areas, keeping them warm is

important not just from a productivity standpoint, but also for employee retention. Mitsubishi and its CAT line of fork lift products offer heated floors in trucks and heated steering handles on walkies, as do other manufacturers. The heated handles are important not just for comfort, but because they allow workers to operate equipment more easily using gloves rather than the clumsier mittens.

Fingertip hydraulics, using either a joy stick or buttons, are also an ergonomic feature that cuts down on the fatigue of constantly reaching for the older-style levers, explains Paul Fiala, electrics product manager for Mitsubishi in Houston. These newer-type controls have caught on with younger workers, and they also allow for more precise control of hydraulic movements.

One safety feature that Mitsubishi has built into their sit-down products includes seat switches that prevent equipment from being operated unless the driver is sitting down.

Raymond Corp. has developed equipment that allows warehouse managers to set two different levels of speed for motorized equipment, based on their assessment of the experience of individual workers. When the worker punches in his PIN number, the pre-selected operating mode is automatically activated. This feature makes sense in warehouses where labor turnover is high, and, as a result, many workers are relatively inexperienced.

Another new safety feature being introduced in some warehouses, according to Mason of Jungheinrich, involves radio frequency receivers on lift equipment. RFID sensors are embedded throughout the warehouse, which allows managers to track the movement of trucks and to automatically cause equipment to slow down, blow a horn or otherwise warn drivers of hazards.

In recent years electric alternating current (AC) motors have replaced direct-current electrics and LPG-fueled internal combustion engines when it comes to new lift equipment.

Fewer environmental problems with electrics, and the superior operational and maintenance characteristics of AC motors explain the category's growing popularity. "Five years ago LPG was about half the market," but today's new equipment is almost all electric, explains Marshall of Hyster.

The AC electric units give better acceleration and power than direct-current electric and smoother rides. Maintenance costs are also less with AC, in part because there are no brushes to be replaced. Today, new equipment can go 500 hours between maintenance, compared with just half that time five years ago.

The key for Raymond Corp. says Jeff Leggett, director of marketing for counterbalance and pallet trucks, is "simplification." The goal is to reduce components and

subsystems throughout the product line as a way to improve reliability.

An example is Raymond's "CANbus" electrical system that reduces the tangle of wires connecting sensors to controls on the handles of walkies. It used to be that every sensor required two wires, but now we are down to just four wires going into the handle, Leggett said. The result is less chance for damage or need for maintenance. Other manufacturers have developed similar systems.

Battery technology has improved greatly over the past 10 years, which has made electric fork lifts in warehouses more attractive. Depending on the level of use batteries can run up to 12 hours before they need recharging. Most grocery warehouses run three shifts, or two extended shifts, putting a premium on long-running batteries.

**Manufacturers continue to look for ways to tweak their equipment to squeeze extra runtime out of batteries. One strategy used by Yale is to program equipment to adjust amperage down during less active hours of operation. This extends battery run-time between charges.**

Hydraulics, which provides the lift in equipment, is another area where manufacturers are seeking to improve reliability. Hydraulic fluid leaks are a common problem, and manufacturers have developed better seals. Others have sought to simplify hydraulic systems by reducing the number of bends, or friction points, in fluid lines that produce heat and wear down components.

While most large retailers and wholesalers continue to own and service their own forklift equipment, some are turning to leasing, which is popular in Europe. Marshall of Hyster estimates that 40% to 50% of the company's North American business is now leasing.

"People are looking for a total package. They want to reduce their fixed costs and get rid of maintenance." The result is that Hyster is moving further into fleet management.

## **Related Article: Safety First**

"Look both ways before you cross" is a good rule, whether you're on a street corner or in a warehouse aisle.

Everything is operating faster--and longer--in warehouses these days, and with speed comes accidents, according to Jim Shepherd, a training consultant who specializes in warehouse operations. His company, Shepherds Industrial Training Systems, is based in Bartlett, Tenn.

Overall accidents rates in warehouses are not increasing, Shepherd says, but he is seeing more pedestrians injured by forklift trucks. The main reason for the increase is higher

forklift speeds in aisles as operators hurry to increase their throughput of orders.

Better training is a key to reducing accidents of all kinds, but one area that is not getting enough attention, Shepherd says, are “near-misses”—those accidents that almost happened. “We have to get operators to log near misses.” Shepherd said, but that will not happen until management stops approaching these events as disciplinary actions.

For example, if there are a number of near-misses at a particular location in the warehouse, management needs to consider rerouting traffic.

Improperly getting on or off forklift equipment is a common source of accidents for operators. To avoid injury, Shepherd teaches a basic three-point contact dismount, in which operators keep both feet and one hand in contact with the equipment or floor at all times.

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