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Forklift costs: Get the whole picture

If you're in the market for forklifts, look beyond the sticker price and consider the total cost of ownership.

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After several years of keeping a tight hold on their purse strings, companies are beginning to shop for forklift trucks again. But let the buyer beware: To make the best purchasing decision, it's necessary to consider a lot more than the initial price tag.

The sticker price, in fact, represents just a small portion of the total cost of ownership, says Kyle Crist, president of San Jose, Calif.-based Crist Information and Research, a provider of forklift data and evaluation tools. "The acquisition cost is only about 10 to 20 percent of the total cost of the forklift truck," he says.

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David Schneider, director of engineering and logistics at The Pep Boys, a \$2.1-billion automotive-aftermarket retailer based in Philadelphia, Pa., knows that well. When the company purchased six forklift trucks in 2003, Schneider and his staff considered not only the initial purchase price but also the costs of delivery, taxes, insurance, maintenance, operator training, downtime, and "end-of-life" disposal.

"The benefits of a cost-of-ownership approach are that, over the long term, you make the most cost-effective decision when you buy a truck," says Schneider. "Instead of saving money up front and getting a false sense of economy, you look at the longer-term cost of ownership, which is harder to budget for."

How can you determine the total cost of ownership? Schneider, Crist, and other experts suggest looking at a number of factors that will affect your costs over the life of the equipment.

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Start With the Specs

The first step for any forklift purchase begins with determining what type of truck will best meet your specific performance needs. Crist recommends taking advantage of your local dealer's expertise to help determine the right type of equipment. The sidebar below also provides some questions that will help you formulate specifications.

Those specs will largely determine the lift truck's sticker price. Industrial truck prices range from \$3,000 for a manually operated "walkie" to \$100,000 for large, specialized equipment such as a turret truck. Most, however, will fall in the \$15,000 to \$30,000 price range.

The actual price will depend on the details. Suppose you need a forklift with a 5,000-pound load capacity. A four-wheel, internal combustion truck with pneumatic tires costs approximately \$20,500; the same truck with air-cushion tires runs about \$18,000. The price for a 5,000-pound, four-wheel electric truck with battery and charger, by contrast, is approximately \$25,000.

Mainly Maintenance

Once you've settled on performance specs, you can ask dealers representing different manufacturers for bids. "Forklift trucks are pretty much vanilla," says Crist. "It really comes down to the OEMs [original equipment manufacturers] stating their case for how much money they're going to save your organization."

For its 2003 purchase, The Pep Boys needed six counterbalanced fork lifts. (Counterbalanced trucks are weighted in the back so they won't tip forward when lifting a heavy load.) After narrowing the field to three manufacturers, the retailer was ready to take a close look at each model's long-term costs.

A significant portion of those costs related to maintenance and repairs. As part of his selection process, Schneider asked vendors

about recommended maintenance intervals, failure rates, and parts-replacement costs. That information helped him forecast a maintenance service schedule and estimate future expenses.

But manufacturers' recommendations are based on averages, which may not match your company's actual conditions and experiences. That's why it's important to keep detailed maintenance and repair records for your current forklift fleet and to mine that data for useful information, suggests Dirk von Holt, president of the Industrial Truck Association.

The Pep Boys did just that, comparing vendor-provided data with its existing equipment's service history. That information resides in a database that separates service costs for parts that are subject to wear, such as tires and brake pads, from those for major repairs, such as lift motors and control cards. (Repairs due to operator abuse or accidents are segmented out as they aren't indicative of the lift truck's performance.) The database also includes the hour-meter reading for each service activity. This information helps managers calculate how often a particular part must be replaced, as well as the average maintenance and repair costs for each year of a truck's life.

If you don't have such records, ask the dealer to quote a price for a full maintenance contract, recommends von Holt, who also serves as president of Jungheinrich Lift Truck Corp. These contracts typically cover all maintenance and repairs, excluding those caused by operator abuse or accidents, for a monthly flat fee. "Whether or not you plan to take advantage of the deal, you have that as part of your initial quote," von Holt explains.

If the price and quality of the trucks under consideration are about the same, then a dealer's maintenance capabilities may be the deciding factor in the buying decision, says Don Derewecki, executive vice president of Gross & Associates, the Woodbridge, N.J., materials-handling consulting firm. "Then it really comes down to who can provide the best service," he says. "In a major metropolitan area, this might not be such a big issue but out in the hinterlands, you may have one manufacturer with a stronger dealer representative than the other."

The Cost of Time

A less tangible but still important cost factor is the amount of time and effort required for routine maintenance or repairs. "If a truck takes more effort to maintain, it will cost more to do the maintenance," Schneider says.

That was a major consideration when The Pep Boys evaluated different lift trucks. For one model, it took less than two minutes to open all of the access panels and pull the dashboard up to do a routine maintenance job. For another, it took 20 minutes.

Understanding this cost may require having an industrial engineer perform time studies of maintenance activities. You can also ask mechanics and operators how long it takes for common maintenance and repair tasks, how difficult they are, and what tools are required.

Extra service time, moreover, can be costly not only in terms of hourly labor but also in terms of its impact on maintenance quality. "If it's stuff that you want the truck operator to inspect every day, you have to look at how easy it is to do," says Schneider. "If it's easy, he's going to do it. If it's difficult, he will come up with every excuse why not to do it."

Look Down the Road

Even before you purchase a forklift truck, look down the road to the end of its life. "The really surprising thing for us was the importance of length of life," Schneider says. "How long we planned to have the truck had a large effect on the [buying] decision."

The Pep Boys originally planned to keep its new trucks for 10 years. Based on that life cycle, all three models under consideration offered similar total costs of ownership. One model, however, would not have required major repairs for seven to eight years. Investigating further, Schneider's team found that if the company were to hold those trucks for just five years, it would not only avoid the cost of major repairs but it also would dispose of them before they had fully depreciated in value. Given those benefits, The Pep Boys decided to lease its lift trucks—an option the team had not originally considered.

Play it Safe

A handful of other cost factors influence the total cost of ownership. Fuel-consumption costs can vary widely, depending on the type of engine. When calculating that cost for electric fork lifts, be sure to include the time required to charge the battery or the cost of stocking multiple batteries that operators can swap out.

Don't forget to consider the cost of operator training, required by the Occupational Safety & Health Administration (OSHA). Training requirements—and therefore costs—may vary depending on the type of equipment you buy. (For more on this subject, see "Four options for forklift training" in the February 2004 issue of *Logistics Management*, accessible online at www.logisticsmgmt.com.)

Risk associated with equipment failure or the potential for damage or injury carries a cost, too. "The operators—and their safety—are a more important part of the buying decision than ever before," says von Holt. You might, for example, take into account such risk factors as ergonomics, the operator's line of sight, and noise levels. You'll also want to have operators test-drive new equipment, see the trucks operate in environments similar to your own, and check references.

Finally, be aware of the forklifts' "cycle of improvement" period. Nowadays, major design and technology improvements occur about every three years. "Although in many ways this is a mature industry," says von Holt, "there are new developments. Users need to consider whether what they are buying is a top-notch, state-of-the-art forklift truck or yesterday's technology."

Don't Back Down

Although the benefits of a total cost-of-ownership approach are well known, some warehouse managers end up buying trucks based solely on the purchase price because of pushback from their finance departments, says Derewecki. Yet careful itemizing of total costs (and anticipated savings) can help make your case to upper management. "Don't let yourself be bullied into buying a machine just because it's cheaper if it's not going to be able to do the work you need it to do," he advises.

There's no question that it's time-consuming to put the necessary data together, but buyers typically find that the long-term savings make the effort well worth it. Just ask Schneider. Based on its 2003 analysis, The Pep Boys purchased the six forklifts it originally specified, plus four additional trucks. And unless market conditions require a new cost-of-ownership analysis, Schneider and his team will use those results to determine which forklift trucks it will buy when the company opens a new distribution center in California next year.

"It is a lot of effort," concedes Schneider. "But you get a hell of a lot of benefit."

What Type Of Lift Truck Do You Need?

The first step in making any purchasing decision is to determine what type of forklift truck you need. Consider the following questions:

- What type of load-handling device do you use? Pallets? Crates? Skids? How big are they?
- How far will the forklift truck be transporting loads?
- How much weight will the truck be lifting? (In other words, how much capacity will you need?)
- How many hours will it be operating per day? How many shifts do you run?
- How high will it need to lift?
- Will it be operating outdoors, indoors, or both?
- What is your warehouse design and infrastructure?
- How wide are your aisles?
- What kind of applications will the forklift truck be performing? Will it be unloading over-the-road trucks? Order picking? Stacking and retrieving?
- Does your operator need to be able to sit down or stand up?

Source: Logistics Management, interviews

For More Information

In the market for new forklift trucks? You might want to check out these additional information sources:

- *"How to Choose the Lift Truck That's Right for You"*: This Gross & Associates white paper, published in 2001, outlines basic considerations when shopping for a forklift truck. (www.grossassociates.com/articles/choose_lift.PDF)
- *"Forklift Truck Guru"* and *"Materials Handling Guru"*: Two cost-evaluation tools from Crist Information and Research that provide truck specifications, OEM pricing, resale values, and a residual-value calculator. (www.ltquru.com)
- *"What's New in Lift Trucks"*: This article from the May 2004 issue of *Modern Materials Handling* offers a quick tour of the latest developments and features introduced by forklift manufacturers in 2004. (Go to www.mmh.com and click on "Archives".)

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