Forklift Selection Strategies

Options abound, so do your homework.

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According to the Industrial Truck Association (ITA), there are more than 20 different types of lift trucks and more than 20 lift truck manufacturers in the United States and Canada. That's quite a variety by any precaster's standards, and that's a good thing.

And while it's nice to have such a wide selection of products from which to choose, it also means a lot of research is in order if you are to find the best match for the job at hand. But that doesn't have to be a bad thing if you examine a few key details.

Manufacturers and classes

The ITA, which represents the manufacturers of lift trucks and their suppliers who do business in North America, has organized the different types into eight distinct classes:

NPCA photo

Class 1: Electric Motor Rider Trucks
Class 2: Electric Motor Narrow Aisle Trucks
Class 3: Electric Motor Hand Trucks
Class 4: Internal Combustion Engine Trucks – Cushion Tires
Class 5: Internal Combustion Engine Trucks – Pneumatic Tires
Class 6: Electric and Internal Combustion Engine Tow Tractors
Class 7: Rough Terrain Fork Lift Trucks
Class 8: Personnel and Burden Carriers

One of the first steps is to identify forklift manufacturers that have specific expertise in the precast industry. According to the sales manager of one such company, when selecting a forklift, the bottom line is this: You need something to move your products for the least amount of money possible. "The cost of moving materials can be expensive, especially for smaller companies, so you don't want to spend any more than you need to," he says.

The next step is to narrow down the number of classes from which you will be selecting. For precast work that is mostly outdoors, companies will usually want to focus on internal combustion forklifts, which include Class 4, Class 5 and Class 6 (electric forklifts are meant for indoor work).

Internal combustion (IC) forklifts

These trucks, which can operate on gas, diesel, compressed natural gas or liquid propane, are used primarily outdoors because of emissions and because they are able to operate in inclement weather.

The benefits of IC include lower initial purchase price (20 percent to 40 percent lower than electric), quick and easy refueling (no need to recharge batteries or for a battery recharging station), the ability to be used outdoors and in the rain, and the ability to lift heavy loads (more than 15,000 pounds and up to 35,000 pounds).

There are drawbacks to IC trucks compared with electric trucks, though, such as a higher cost per hour to operate than electric trucks because of fuel costs and maintenance costs; a shorter lifespan because of more moving parts; noisy operation; and fuel storage requirements. Of course, since few precasters have the option of using electric trucks, they simply live with the drawbacks.

Purchase considerations

When purchasing a forklift with reliability and maximum performance in mind, there are three elements to address:

- The reliability/dependability of the vehicle itself. It is important to purchase forklifts that are not prone to breakdowns.
- The performance features of the forklift (such as the speed of operation).
- The ergonomic features that allow the operators to work efficiently.

Reliability

These days, customers insist on forklifts that are dependable and that also have additional features, and manufacturers are responding. That is, few manufacturers are making trade-offs between dependability and features. In general, manufacturers are designing trucks that can operate dependably with longer operating times between scheduled maintenance intervals. For example, some can run as long as 500 hours between maintenance intervals, as compared with 200 to 250 hours in years past.

Dependability is definitely more important than it was in the past. For example, 20 years ago, forklifts might last for 15 years, because usage wasn't that high. Now customers want equipment where they can double or triple the usage per year, and they still want the same reliability.

Getting dependability may require a balance for precasters, though. That is, most manufacturers take extra care to build reliability into large IC forklifts that are designed for heavy lifting, because they know that customers are likely to purchase fewer of these than customers who purchase smaller electric forklifts that are used indoors. Since owners of large IC units have fewer forklifts, dependability is important, because a large forklift that is out of commission can cause a big hole in productivity. On the other hand, as mentioned earlier, electric trucks tend to be inherently more reliable, because they have fewer moving parts. In addition, they run cooler than IC trucks, and heat can cause damage to parts of the forklift, such as hoses and wires.

To address this balance, look for IC forklifts that are manufactured with thicker steel and other materials, because they are going to be more durable, especially when handling heavy loads. You also want to make sure the electronics are shock-mounted and shock-tested to withstand the jarring. Finally, switches should be sealed to protect them from dirt and debris.

For precasters, one critical concern is dust and dirt in the air. "As such, you need the right air filtration system," says the sales manager. "Find out what the truck does over and above normal for dust application."

He also suggests looking for additional options that can extend the life of a forklift. One of these is "wet" disk brakes (those with hydraulic brakes), which dramatically reduce the cost of ownership related to brake repair. "We are finding savings of up to $10,000 on 14,000 hours of operation," he says. New radial tires can also reduce the cost of ownership: They can last three to six times longer than standard tires and two to three times longer than solid tires, and they use 8 percent to 18 percent less fuel.

Performance

Once you have found forklifts that are built for reliability, the next step is to inspect the performance features, which will determine how quickly operators can perform their work with the forklifts. In general, smaller and lighter trucks allow for better maneuverability and thus improved speed of operation. Of course, most of these trucks are the smaller electric versions, so precasters will have to sacrifice agility and speed for the power they need in the larger forklifts.

Some trucks have controls that allow managers to select limits on acceleration, top travel speed and tilt speed, based on the experience of the individual operators. It makes sense to take advantage of these features. The reason: Asking all operators to perform their work at top speed is not always the best strategy. While experienced drivers may be able to work "all out" most of the time, inexperienced drivers need to work more slowly in order to reduce the risk of accidents (dropped and damaged loads, as well as injuries to other employees). Accidents, of course, significantly cut into productivity, especially if they damage the forklifts themselves and take them out of commission for repair.

One important feature to consider when assessing performance is an overload sensor. "If you ask any driver how he knows he's overloaded, the standard answer is when the wheels come off the ground," points out the engineering manager for another lift truck manufacturer with specific expertise in the precast industry. "You don't like to hear that answer, because it means he has used up all his reserve capacity. You can't fault the operators, though, because they may not have any other barometer to determine overload."

In fact, this may be more true in precast than in other industries because of the shapes, weights and different load centers of the items being moved. To address this problem, some forklifts include an overload warning that doesn't just

look at lift weight (which all overload warnings do), but also takes load center into account, which lets operators know what they're doing to the truck as they are grabbing and holding loads. "Once the truck is overloaded, it has a sensor that can prevent any more vertical lift," says the engineering manager.

In addition, some forklifts have a low center of gravity, which provides additional stability and thus makes them ideal for precast customers.

Another element of performance involves the attachments. "It is very important to get the correct front end to pick up what you are moving," says the sales manager. "If you end up with weak or incorrect attachments, it will cost a lot of money in terms of wear and damage to the machine, as well as reduced productivity."

Photo courtesy Hoist Liftruck

IDEALLY, THE FORKLIFT SHOULD BE AN EXTENSION OF THE OPERATOR'S HANDS.

There are a lot of new attachments on the market these days. According to the sales manager, just because you used the same one for 10 years doesn't mean there isn't a better one today. "Sit down with a reputable salesperson who understands the industry and work this out," he suggests. Example: A lot of companies use forklifts to move pipe. Some operators run up to a sand hill, put the brakes on and drop the pipe off. If they fall over, the operators have to pick them up again with the forks. "One attachment company has a clamp that grabs the pipe and turns it 180 degrees so the operator can then set it down," he says. "This stops the pipe from breaking or rolling off the sand hill and hitting the truck or an employee."

Ergonomics

To a large extent, ergonomics will determine the level of productivity you get out of your forklifts. Ergonomic design leads to improved operator comfort, which leads to the ability to work more quickly and productively, and the ability to work longer without becoming fatigued.

Key ergonomic features to look for include comfortable seats, tilt steering wheels, extra leg room and head room, cushioned floor mats and swivel seating. Swivel seating allows operators to quickly shift the directions they are facing, which allows them to operate in reverse without having to constantly look over their shoulders.

Open-view mast design that allows operators to see clearly in front of them not only reduces accidents but also improves productivity, since the operators are able to move forward faster than they would if their vision was slightly obstructed.

Some of the most important elements of ergonomics are ease of understanding and ease of use. Ideally, the forklift should really be an extension of the operator's hands. When controls are intuitive and easy to access, the worker is able to operate the equipment more quickly and productively. For example, controls can be color-coded. Rather than having to "hunt and peck," the worker can locate and operate the necessary controls quickly and easily.

"It is interesting that companies arrange for employees to have air conditioning in their offices, trucks and even overhead cranes," observes the sales manager. "However, they don't have this in their forklifts. If workers are spending eight hours a day in the sun and heat, it reduces their productivity. You want that driver just as productive during his eighth hour of work as during his first." He added that customers who have included air conditioning with their forklifts have seen dramatic improvements in driver productivity.

Efficient operation

Having a fleet of reliable forklifts with the best performance features and excellent ergonomics is a first step toward maximizing productivity. The next step is deploying the fleet efficiently. Having a fleet of five trucks doing the work of five trucks makes more sense than having a fleet of six trucks doing the work of four trucks.

Work with the dealer to set up a fleet performance program. This will involve finding ways to schedule the trucks in the most effective way, so that they are operating as many hours as possible and are doing so as efficiently as possible and with as little wasted usage time as possible. This not only involves managing work orders but scheduling trucks for required maintenance.

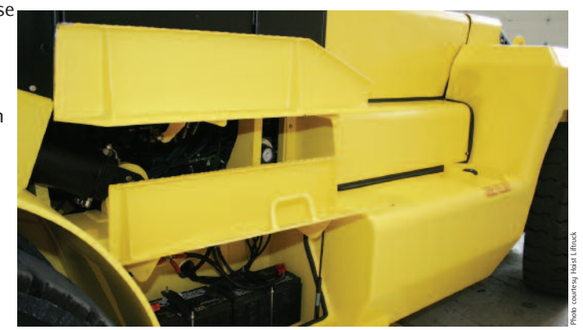

Photo courtesy Hoist Liftruck

ACCESSIBILITY FOR MAINTENANCE IS ANOTHER IMPORTANT FACTOR IN GETTING YOUR FORKLIFT BACK INTO OPERATION QUICKLY.

The dealer should also help set up a fleet performance measurement program, which allows comparison of actual performance against ideal performance measures. Most dealers can offer software programs to assist in this endeavor.

Maintenance

There are three elements to an effective maintenance program:

- Daily in-house maintenance
- Scheduled preventive maintenance
- Timely repair of breakdowns

Daily Maintenance. One key to preventive maintenance is to perform daily checks before you begin operating the forklifts to be sure they are in good working order.

Scheduled Preventive Maintenance. These days, customers want forklifts that are running constantly, so they want to be able to extend the scheduled maintenance interval. In addition, when maintenance does occur, they want it to be done very quickly and efficiently. As such, the forklift industry is moving toward a trend for greater periods of time between scheduled maintenance. Of course, harsher applications, such as those that occur in precast operations, will require more frequent maintenance.

Who should perform regularly scheduled preventive maintenance? If you operate a large facility and can afford to hire an expert, it may make sense to do so. Otherwise, maintenance should probably be handled by third-party experts, who will usually be employed by the local forklift dealer. Dealership technicians are continuously trained and are up to date on the latest maintenance techniques. In addition, you don't have to worry about whether your own maintenance people are busy with something else.

When selecting a preventive maintenance provider, make sure they can offer quick turnaround time on scheduled maintenance and repairs. Part of this involves making sure they stock all of the parts required for regular maintenance and unscheduled repairs.

Breakdown Maintenance. In a perfect world, if you purchase reliable forklifts, operate them within guidelines, engage in daily maintenance activities and arrange for scheduled preventive maintenance, your trucks should not break down. But of course there will be times when forklifts will fail. In such instances, it is important to get them back up and running as quickly as possible.

One of the benchmarks of a good repair program is how quickly a dealer's service person gets to the customer's facility. A good dealer should be able to get someone to your site within two to four hours. Another benchmark is the ratio of "first time fix." This means that they are able to fix the problem the first time and get the equipment up and running again.

Parts availability is another important benchmark. The quicker replacement parts are available, the more productive you can be.

Many forklifts now have their own diagnostic capabilities, where readouts on the dashboard will identify the fault code that it is experiencing. The readouts can then be linked to a list of parts required to make the repair, as well as the labor procedures and times necessary and the tools needed to make the repair. This can significantly reduce the time it takes to diagnose and subsequently repair a breakdown.

Some companies offer electronic diagnostic and service capabilities. "For example, the system provides an alert when a filter needs to be changed," says the engineering manager. "An e-mail also alerts our parts department, and they call the customer to see if they have a filter in stock or need them to ship one out."

It's a lot to think about, but by researching what is available and evaluating your needs, you'll get more than just a heavy lifter from your purchase. mc