TIME TO RETHINK YOUR LIFT TRUCK POWER

Industrial trucks depend on strong, reliable power to move ingredients for beverage bottling and food processing, cement for concrete operations and shipping containers at ports. These demanding, high-intensity applications have historically depended on internal combustion engines (ICEs), with their consistent power delivery and high performance – but with the expansion and advancement of new electrification options, the motive power landscape is shifting.

Hydrogen fuel cells and lithium-ion batteries are gaining traction in heavier-duty lift truck applications

Hydrogen fuel cells and lithium-ion batteries in particular are gaining traction when it comes to both distribution centers and heavier-duty lift truck applications. Electrification is no longer a pipe dream, as these power sources are now available on more lift truck product classes and capacities than ever before, capable of delivering the long-lasting, high performance intensive applications require. While traditional ICE or even lead acid batteries may still be the best-fit for some jobs, more applications are legitimate candidates for electrification than ever – helping operations overcome common challenges related to productivity, labor efficiency and more.

Rather than simply accepting the status quo of lift truck power, it might be time to rethink your power source. This white paper explores four signs it's time to make a change in your heavy-duty material handling operations.

1 // DEMANDING CONDITIONS CAN'T SLOW DOWN PRODUCTIVITY

Extreme temperatures, environments and duty cycles can push equipment to the limit, resulting in wear and tear that can lead to a spike in equipment downtime and all kinds of productivity bottlenecks. To manage this risk, operations can explore power sources that are proven to perform in the harshest environments.

ICE lift trucks have been, of course, the tried-and-true option for demanding outdoor applications. They offer remarkable durability and have a proven record of standing up to the hottest, dirtiest and coldest environments. These trucks power through multiple shifts without depending on the electrical grid – an especially important consideration if local utilities cannot provide the electricity to keep electric fleets moving.

But electric trucks can handle tough temperatures, too. For example, lithium-ion batteries offer superior performance in hot and cold environments, helping lift trucks run reliably and consistently over multiple shifts, no matter the season. Hydrogen fuel cells provide consistent power delivery until full depletion and refuel in as quick as three minutes, meaning lift truck drivers are able to spend more time being productive – not on complex charging and changing processes.

2 // YOU STRUGGLE TO FIND AND RETAIN LABOR

Lift truck operators are in short supply. With competition so fierce for a limited pool of labor, good help is not only difficult to find – it's hard to hang on to, with approximately 30% to over 45% turnover reported in manufacturing, warehousing and other logistics sectors in 2019. To keep lift truck operators engaged and performing at their best, ergonomics and comfort are key. Electric-powered lift trucks produce less noise than those powered by ICE and transmit fewer vibrations to the operator, offering a smoother ride. They also do not emit harmful exhaust, improving air quality and creating a cleaner work environment.

Difficulty finding and retaining labor can sometimes force companies to hire operators who have little experience operating forklifts. In the case of working with traditional lead-acid batteries and LP tanks, lack of experience can potentially increase safety hazards with regard to battery handling and charging or LP tank changing. Plus, unmotivated or unhappy operators may have poor charging habits, leading to shorter battery life over time.

With a crew of less-experienced operators, it's best to have forklifts that are very simple to operate and maintain. Newer power sources typically require less maintenance and less charging time in a shift, so you can make the best use of the operators you have.

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U.S. BUREAU OF LABOR STATISTICS

3 // YOU NEED TO CONTROL MAINTENANCE COSTS

All forklifts have some level of planned and unplanned maintenance – whether on a weekly, monthly or quarterly basis. In fact, 80 percent of the total cost of a forklift comes *after* the initial capital investment, so it's important to understand the maintenance requirements for each power source option.

ICE power means a whole host of powertrain items that require periodic service or replacement, including fluid, filters, spark plugs, belts or other items prone to wear.

Electric powertrains offer greater simplicity and fewer service items. Lead acid batteries do require some maintenance and additional processes to ensure they perform to their potential, including equalizing, watering and off gassing, but hydrogen fuel cells and lithium-ion batteries offer a simpler approach. Lithium-ion batteries do not require battery maintenance and can be plugged in without any special pre- or post-charging steps, while refueling hydrogen fuel cells is a process much like refueling a passenger vehicle. In fact, hydrogen fuel cells can be refueled in as quick as three minutes, which means lift truck operators are able to spend more time being productive – not on complex charging and changing processes.

4 // YOU ARE COMMITTED TO SUSTAINABILITY

Local, state and federal regulations are putting pressure on industries to reduce environmental impact, while many businesses have their own green initiatives that seek to reduce fossil fuel emissions. From manufacturing to large-scale construction projects and port operations, this shift puts emissions from industrial trucks in the bullseye of sustainability targets.

For managers charged with finding ways to meet those targets, reducing emissions from ICE-powered lift trucks can provide environmental benefit related to emissions. Also, lead-acid batteries require off-gassing as part of the charging process and carry the risk of potential acid leak and corrosion – newer power options like lithium-ion batteries and hydrogen fuel cells do not come with these characteristics.

// POWERING POSSIBILITIES FOR ELECTRIFICATION – EVEN IN HEAVY DUTY APPLICATIONS

Lithium-ion power started small, powering walkie pallet trucks moving loads of consumer goods in and out of trailers and retail stores. But now, lift trucks carrying heavy loads in harsh conditions can be powered by lithium-ion batteries and hydrogen fuel cells. For demanding applications, counterbalanced lift trucks with integrated lithium-ion power are available from the factory with capacities up to 19,000 pounds and the performance operations expected from an ICE-powered truck.

But to make the best choice when evaluating lift truck power, operations need specialized expertise across the whole range of industrial trucks and available motive power options. An understanding of the unique challenges of your industry is another important piece to making a best-fit recommendation that accounts for the unique characteristics of your operation. The right fit can make fleets more efficient, help retain forklift operators and help reach productivity targets all shift long, day after day.