TIME TO RETHINK YOUR LIFT TRUCK POWER

Industrial trucks depend on strong, reliable power to move cement for concrete operations, shipping containers at ports, and ingredients for beverage bottling and food processing. These demanding, high-intensity applications have historically depended on lift trucks with internal combustion engines (ICEs), due to their consistent power delivery and high performance. However 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 heavy duty lift truck applications

Hydrogen fuel cells and lithium-ion batteries in particular are gaining traction in both heavy-duty lift truck applications and distribution centres. Electrification is no longer a fantasy, 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 that intensive applications require. While traditional ICE or lead acid battery powered forklifts may still be the best fit for some jobs, more applications than ever are suitable candidates for electrification, which could help operations overcome common challenges related to productivity, workforce efficiency, and more.

Rather than simply accepting the status quo of your lift truck power, it might be time to rethink your power options. This white paper explores four signs that 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 increased, resulting in wear that can lead to a spike in equipment downtime and productivity bottlenecks. To manage this risk, operations should explore power sources that are proven to perform in the harshest environments.

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

But electric trucks can handle tough temperatures and outdoor operation too. For example, lithium-ion batteries offer superior performance in hot and cold environments, helping lift trucks run reliably and consistently over multiple shifts, whatever the weather. And hydrogen fuel cells provide consistent power delivery until full depletion and may be refuelled in as little as three minutes. So, lift truck drivers are able to spend more time being productive – not on complex battery charging and changing processes.

2 // YOU STRUGGLE TO FIND AND RETAIN LABOUR

Lift truck operators are in short supply. With competition fierce for a limited talent pool, good employees are not only difficult to find, but 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 their IC counterparts 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 labour can sometimes force companies to hire employees who have limited experience operating forklifts. When working with traditional lead-acid batteries and LPG fuel bottles, lack of experience can potentially increase safety hazards with regard to battery handling and charging or G bottle changing. Plus, unmotivated or unhappy operators may have poor charging habits, leading to shorter battery life over time.

With less-experienced operators, it's best to have forklifts that are intuitive to operate and simple to maintain. Newer power sources, like lithium-ion batteries, 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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3 // MAINTENANCE COSTS ARE OUT OF CONTROL

All forklifts require some level of planned and unplanned maintenance, whether on a weekly, monthly, or quarterly basis. In fact, 80% 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 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 equalising, watering, and gassing, but hydrogen fuel cells and lithium-ion batteries offer a simpler approach. Lithium-ion batteries are maintenance free and can be plugged in without any special pre- or post-charging steps, while refueling hydrogen fuel cells is similar to refueling a passenger vehicle. In fact, hydrogen fuel cells can be refueled in just a few minutes, which means lift truck operators are able to spend more time being productive.

4 // YOU ARE COMMITTED TO SUSTAINABILITY

Various regulations across Europe, the Middle East, and Africa are putting pressure on industries to reduce their environmental impact. Meanwhile, 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 puts emissions from industrial trucks in focus for those trying to meet 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 batteries started small, powering 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, counterbalance lift trucks with integrated lithium-ion power are available from the factory with capacities up to 18-tonnes and the performance that operations previously expected only from an ICE-powered truck.

But to make the best choice when evaluating lift truck power, operations need access to specialised expertise across the whole range of industrial trucks and available power options. An understanding of the unique challenges of your industry is another important factor in making a 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.