

Propane Powers Overnite's Forklift Fleet

As one of the nation's leading less-than-truckload (LTL) transporters of palletized or skidded shipments, Overnite Transportation Company understands the value of optimal performance in the warehouse. That is why Overnite Transportation chooses to run propane-powered forklifts to meet its multi-shift requirements.

Overnite Transportation has 1,835 forklifts in its fleet, with nearly 90 percent running on propane. The company is in the process of shifting its entire fleet to propane after having evaluated all available forklift and fuel options in the market.

According to Dwayne Dagenhart, manager of operation services, the decision was made in part because propane-powered lift trucks cost less than electric trucks. But propane's overall operating cost and productivity benefits sealed the deal – propane has a lower fuel cost, delivers greater performance and is easy to switch out, resulting in increased productivity in the warehouse. Overnite's Nissan JC40LP lift trucks operate for more than twenty hours per day, far surpassing the eight hours of operating time of electric forklifts.



Overnite Transportation's
Forklift Fleet Facts

Fleet Type: Forklifts
 Fuels: Propane, electric & diesel
 Fleet Size: 1,835
 LPG-fueled: 89.5%

The company began by replacing its diesel-powered lift trucks with propane. Now electric trucks in the fleet are being phased out and replaced with propane. Although the company has a couple hundred non-propane forklifts remaining, Dagenhart says that those lift trucks are on track to be replaced with propane-powered forklifts. "The gain in productivity, uninterrupted operational capability and freeing up of valuable dock space that was otherwise occupied by battery stations are reasons enough to make the switch from electric to propane," he said.

The Ideal Fuel for the Multi-Shift Warehouse

Using propane has reduced the time Overnite forklift operators spend refueling each lift truck – a critical performance factor for multi-shift operations. Replacing propane tanks is as simple as removing the empty tank and inserting a full one, with total refueling time equaling ten minutes or less. “The easy switch-in and switch-out of propane tanks versus battery charging and re-charging had an immediate impact on our productivity and efficiency,” said Dagenhart.

Propane’s constant rate of performance also means that Overnite no longer experiences the performance hits caused by lower battery power levels, a common occurrence with electric lift trucks. Overnite’s propane-powered forklift fleet gets the job done faster: the high torque output means forklift operators can push loads up to 4,000 pounds and accelerate faster. “Our warehouse personnel prefer propane because propane-powered forklifts don’t lose power like electric ones do,” said Dagenhart. “Propane keeps them moving.”

| Propane Forklifts: The Best All-Around Choice | | | | |
|-----------------------------------------------|---------|-----|----------|----------|
| | Propane | CNG | Electric | Gasoline |
| Low Greenhouse Gas Emissions | YES | | | NO |
| Low Infrastructure Costs | YES | NO | NO | NO |
| Consistent Power | YES | | NO | |
| Total Energy Efficiency | YES | | | NO |
| Low Unit Costs | YES | NO | NO | |
| Low Maintenance | YES | | | |
| 8-hour Operating Time | YES | NO | NO | |
| Lift Load Capacity greater than 82 fph | YES | | NO | |
| Max Speed greater than 9.4 mph | YES | | NO | |
| Refueling less than 5 minutes | YES | | NO | |

Typically, propane-powered forklifts carry a 33-pound propane tank, which can provide up to eight hours of use. Overnite’s cylinder exchange program with its fuel provider ensures that there is a steady supply of available cylinders, with any additional fuel requirements serviced by an on-site cylinder filling station. According to Dagenhart, propane infrastructure requirements are minimal, freeing up valuable warehouse space.

Overnite usually negotiates a 3-year, fixed price contract with propane marketers to meet their propane fuel requirements. In 2003, Overnite purchased 2.9 million gallons of propane to keep its fleet running smoothly.

Fleet Maintenance

Forklifts are maintained in-house by Overnite’s employee mechanics who are trained by Nissan. Overnite replaces its lift trucks every six to seven years to ensure an up-to-date, modern and efficient forklift fleet.

“Our productivity and efficiency have increased substantially since our decision to switch to propane-powered forklifts,” said Dagenhart. “We are pleased with our propane lift trucks and definitely recommend using propane forklifts to other operators.”

Overnite’s forklift fleet operates primarily indoors, and air quality is of prime importance. A non-toxic fuel, propane burns cleanly and can be used safely indoors. Propane’s sealed, pressure-tight system eliminates the toxic spillage and evaporative emissions

found with gasoline and diesel refueling, which can be a significant source of secondary pollution. Propane also produces less carbon monoxide, particulate matter, hydrocarbons and nitrogen oxides than gasoline or diesel—helping Overnite to meet OSHA, EPA and local air quality requirements.

The propane industry is determined to ensure that propane-powered forklifts continue to meet national and local emissions requirements. To this end, the industry sponsors Forklift Maintenance & Training Programs for pre-2002 open-loop forklifts, supports several fuel quality and forklift equipment research grants, and is funding a \$1.39 million fuel systems technologies research project to guarantee that propane forklifts will be able to comply with EPA 2007 emissions standards.

For more information about propane forklift fleets, visit www.propanecouncil.org or contact:

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