Timely Replacement of Lift Trucks

Overview

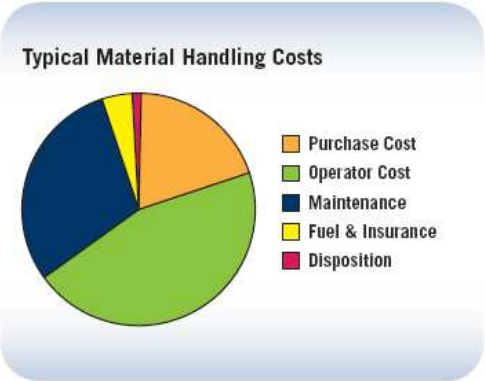
Replacing older, less efficient lift trucks at the right time can reduce your maintenance costs, improve your productivity and, most importantly, save money and maximize your return on investment. As a result, your profitability goes up. In an economic downturn, there is a tendency to postpone the purchase of new equipment. This may be a costly mistake.

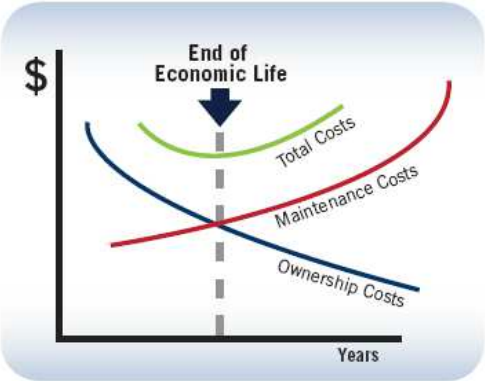
When lift truck fleets are not maintained appropriately or utilized efficiently, downtime increases, productivity is reduced and you end up spending money when you should be making money. This affects your bottom line when more money is being spent on a poorly maintained fleet that doesn't perform as cost effectively as it should. So how do you determine the right time to make a new, significant purchase?

Challenge

Companies often keep lift trucks years longer than they should. They would rather repair trucks rather than replace them, and many times this results in paying more to maintain old trucks than new trucks would have cost. They also pay a hidden cost as the old lift trucks are not as productive as new ones. Uptime is the goal of any company, and downtime due to a nonproductive lift truck results in a loss of income.

There are many common challenges that lift truck owners face. One is the failure to recognize the hidden costs associated with having multiple service providers. This can expose you to a costly administrative burden as well as incremental maintenance-related expenses. It is estimated that only 20 percent of the total materials handling cost of a lift truck is tied to the initial purchase. The remaining 80 percent is attributed to maintenance, the operator and fuel costs. Additionally, the lack of visibility of true materials handling costs and actual asset utilization data may prevent you from exposing significant cost reduction opportunities. Finally, the possession of an aging fleet with high hours typically indicates the absence of a dynamic replacement program. Based on an economic life cycle model (shown below), a materials handling asset may be subjecting you to higher costs per hour and reduced productivity.

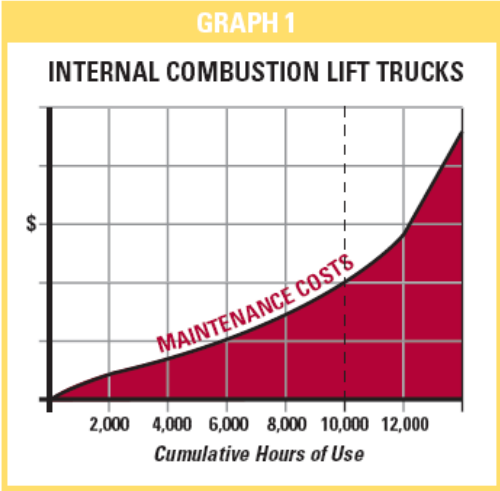




Lift Truck Life Span

Companies focus on useful life rather than on effective economic life. Some lift trucks may remain useful for 10 years or more, but these trucks may no longer operate economically. For every lift truck, there is a limit to its economic effectiveness. At some point, the cost to maintain it exceeds the cost to replace it.

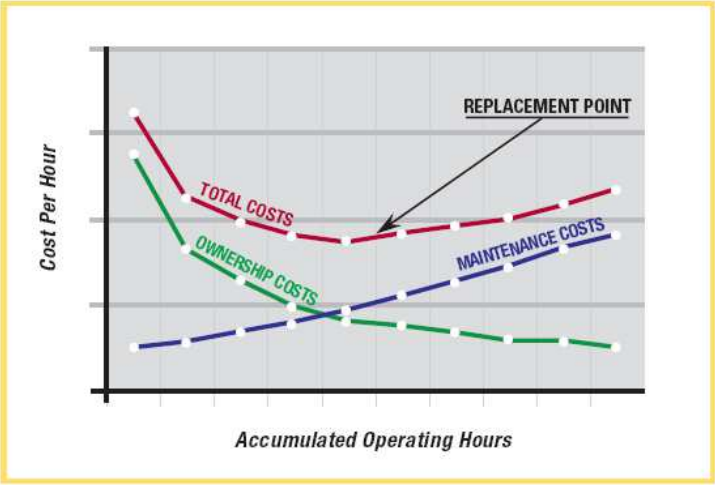
The point in time when the maintenance costs exceed replacement costs depends on the type of lift truck, the operation and other variables. The graph below shows that internal combustion lift trucks begin to experience higher maintenance and operating costs at about 10,000 hours of use. Overhauls, replacement of major components, or frequent minor repairs drive up costs. Failure to replace your lift truck at the right time can be a mistake that ends up costing you money in downtime and maintenance costs.



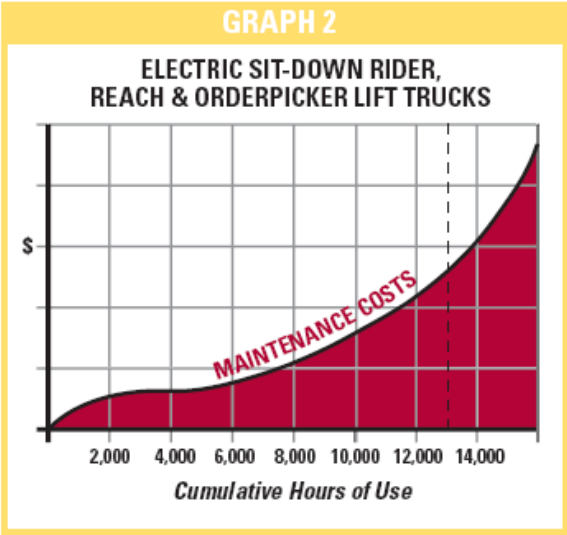
The Right Time

In your operation, a lift truck may operate economically for a longer or shorter time, depending on other factors. These factors include:

- The type of truck and the age of its design
- The severity of the application
- The number of hours it operates per month and per year
- The type and frequency of maintenance it receives



Generally speaking, electric lift trucks will have a longer economic life than Internal Combustion Engine (ICE) lift trucks. This is true because electric lift trucks have far fewer moving components than ICE trucks.



Graph 2 shows that electric lift trucks lose their economic effectiveness after 12,000 to 14,000 hours.

Your application has a big effect on the economic life of the lift trucks you operate. Lift trucks that are exposed to temperature extremes, brine or corrosives will have a shorter economic life. Trucks that operate in clean warehouses with wide aisles should have a longer life.

The number of hours you operate a lift truck each month determines how long it can operate economically. If you run your lift truck in multiple shifts, the time to replace it may be accelerated.

Periodic Maintenance

If your lift trucks are on a program of periodic maintenance, they will operate more efficiently – and last longer – than those that receive attention only when something goes wrong. It is important for your lift truck operators or mechanics to check the vital fluids at the start of each shift. This can be an important factor in prolonging the economic life of a lift truck by 1,000 to 2,000 hours.

Based on these factors, Hyster Company has developed the following chart to serve as a guideline in deciding when to replace a lift truck. The chart assumes the lift trucks receive regular maintenance. The chart is intended as a guideline only; actual economic life may vary.

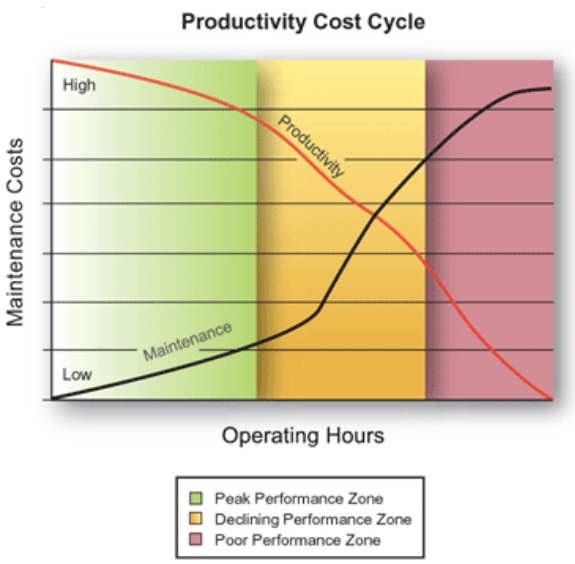
TRUCK TYPE	APPLICATION	ANNUAL USAGE	ECONOMIC REPLACEMENT TIME*
Electric	Light	Less Than 2000 Hours	14,000 Hrs or 7 Years
Electric	Light	More Than 2000 Hours	14,000 Hrs or 6 Years
Electric	Heavy	Less Than 2000 Hours	12,000 Hrs or 6 Years
Electric	Heavy	More Than 2000 Hours	12,000 Hrs or 5 Years
Internal Combustion	Light	Less Than 2000 Hours	11,000 Hrs or 6 Years
Internal Combustion	Light	More Than 2000 Hours	11,000 Hrs or 5 Years
Internal Combustion	Heavy	Less Than 2000 Hours	10,000 Hrs or 5 Years
Internal Combustion	Heavy	More Than 2000 Hours	10,000 Hrs or 4 Years

**Guide indicates economic replacement time is at the earlier of the stated hours or the number of years elapsed.*

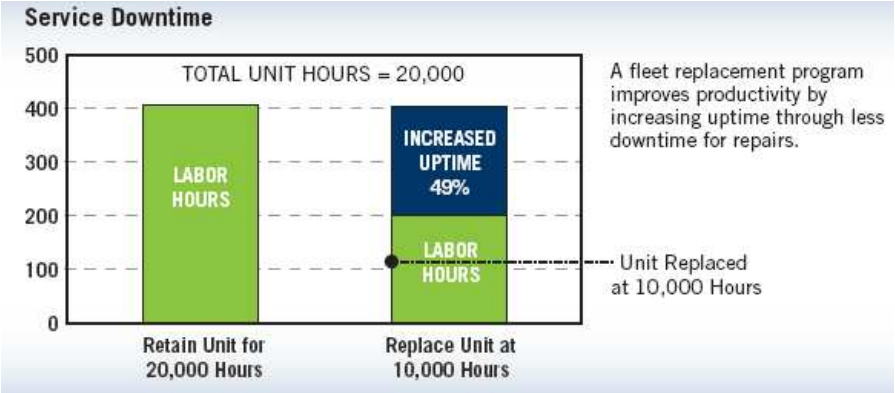
Planned Replacement Is the Key to Success

A key component of any successful fleet management program is a planned replacement strategy. As a general rule, lift trucks have an economic life of approximately 10,000 to 12,000 hours. Again, this varies based on maintenance practices, operating conditions and the type of equipment used.

The chart below illustrates an example of the total costs (operating and ownership) associated with owning and operating a lift truck for a period of 20,000 hours compared to the total operating costs for 20,000 hours with a planned replacement at 10,000 hours. Every operating and ownership situation and application is different. It is important that an experienced, knowledgeable fleet management professional evaluate all relevant costs and determine the optimal replacement point for trucks in a given application/operating environment. Substantial cost savings are available through the execution of a fleet management program that incorporates the philosophy of planned fleet replacement once a unit has reached its Optimum Economic Life Replacement Threshold.



The chart below estimates the reduction in service labor hours by replacing a lift truck at 10,000 hours versus 20,000 hours. This chart suggests an estimated 50 percent improvement in uptime can be realized. As you will note, the cost of maintaining an asset and the subsequent cost of extensive downtime should be key staples in an asset replacement program to ensure optimal cost of operation. It is important that these plans are implemented to guide your asset replacement decisions during times of economic downturn as well as prosperity.



Conclusion

It is very important to replace older, less efficient lift trucks at the right time. Timely replacement of lift trucks can reduce your maintenance costs, improve productivity and, most importantly, save money and maximize your return on investment.

About Hyster Company

Based in Greenville, N.C., Hyster Company (www.hyster.com) is a leading worldwide lift truck designer and manufacturer. Hyster Company offers 130 models configured for gasoline, LPG, diesel and electric power, with the widest capacity range in the industry — from 2,000 to 115,000 lbs. Supported by one of the industry's largest and most experienced dealer networks, Hyster Company builds tough, durable lift trucks that deliver high productivity, low total cost of ownership, easy serviceability and advanced ergonomic features; accompanied by outstanding parts, service and training support.

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