Electric Forklift

Used Electric Forklift Louisiana - An electric forklift is a forklift truck that uses an electric motor to generate power as opposed to an internal combustion model. Electricity comes from a fuel cell or internal industrial batteries. If internal batteries provide the electrical source, the batteries can be recharged by joining the battery to something electrically compatible. These rechargeable batteries are lead-acid or lithium-ion battery. Electrical production with a fuel cell is close to a battery source but requires refueling to be recharged instead of connecting to an electrical source. Electrical forklifts perform the same types of jobs as internal combustion engine forklifts. They both rely on two horizontal forks that are power supplied to transport and unload and load items for short distances. The source of power is the main difference between an internal combustion engine and an electrical forklift model. Most electric forklift models are used for internal applications including warehouses and similar locations that cannot function with comprised air quality. Electric Forklift Classifications The electric forklift truck can fall into one or more forklift truck classifications. They are: 1. Class 1: Electric Motor Rider Trucks The Class 1 Electric Motor Rider Trucks are one of the classifications. These models have cushion or pneumatic tires. Cushion tires are generally used on smooth indoor surfaces and pneumatic tires are mostly used for exterior applications. 2. Class 2: Electric Motor Narrow Aisle Trucks The Class 2 Electric Motor Narrow Aisle Trucks are another classification. These units function within very narrow aisle locations with limited space. This design enables maximum storage space. Class 2 models feature a modified design to limit the amount of space the forklift takes up. 3. Class 3: Electric Motor Hand or Hand-Rider Trucks These forklifts are hand-controlled, which means they do not ride on the forklift but rather is positioned in front of the forklift. The operator controls the forklift using a steering tiller. 4. Class 6: Electric and Internal Combustion Engine Tractors This classification includes forklifts that allow for a broad application use. In the electric forklift version, they are usually used for indoor use or dry outdoor use. A list of forklift trucks that are typically powered by electricity are: Sources of Electricity for Electric Forklifts Electric forklift models are mainly used on even, flat surfaces indoors. Battery-powered forklifts are better suited for interior jobs as they do not emit poisonous gases; making them ideal for food-processing and healthcare applications. Refrigerated jobs prefer to use fuel cell forklifts. They make no emissions and are capable of working in colder locations without a power reduction, unlike battery-operated models. Lead-acid battery The main type of rechargeable battery is lead-acid batteries. Their capacity to supply high current surges allows for a significant ratio of power-to-weight. This, coupled with its affordability, make lead-acid batteries a popular option for use in electric forklift trucks. However, lead-acid batteries are susceptible to freezing in colder temperatures. They also require maintenance which, if ignored, can shorten the life of the battery. Lithium-ion Battery A Li-ion or lithium-ion battery is a different kind of rechargeable battery commonly used in electric forklift models. The main issue with these batteries is they contain a flammable electrolyte and pose a safety hazard if damaged or charged improperly which may lead to fires or explosions. Additionally, Li-ion batteries cost more compared to lead-acid batteries initially; although they need zero maintenance and provide better efficiency compared to lead-acid batteries. Lithium-ion batteries are also able to operate over a greater temperature range with higher energy densities than lead-acid batteries. Fuel Cell Fuel-cell powered forklifts have some of the benefits of both battery operated forklifts and internal combustion engine forklifts. Like forklifts powered by battery, fuel cell power produces no local emissions. One of the fuel cell power disadvantages is that they are approximately half as efficient as li-ion batteries. However, fuel cell power has a higher energy density which can allow electrical forklifts to run longer. The fuel cell models perform better in colder environments compared to lithium-ion batteries. The fuel cell models are preferred for colder applications such as warehouses that are refrigerated. Fuel cells are different from batteries in that they require a source of fuel to produce electrical current and so require refueling. While rechargeable batteries take a long time to recharge, fuel cells can be refilled in roughly three

minutes. It is beneficial for businesses that rely on many forklifts that operate numerous shifts to use fuel cell models since they don’t have the same downtime for charging batteries. Pros and Cons of Electrically Powered Forklifts Advantages of Electric Forklifts When a lift capacity doesn’t have to be greater than 12,000 lbs. electric forklift trucks are often a better option compared to combustion engine forklift trucks. Of course, there are many considerations to decide if the electric forklift model is the best choice for a particular application. Taking a look at the pros and cons of electric forklifts versus internal combustion engine forklifts is necessary. Some of the advantages of an electrically powered forklift over an internal combustion engine are listed below. 1. Operating costs can be much lower for battery powered electrical forklifts because of the ongoing and often increasing cost of fuel. 2. Electricity costs are more predictable than fluctuating fuel costs. This makes electric forklifts are more reliable choice in terms of operating expenses and budgets. 3. Battery powered electric forklifts also allow for recharging at charging stations. This eliminates the necessity for fuel transportation and fuel storage, both at the worksite and onboard the forklift itself. 4. Electrical forklifts, both battery and fuel cell powered, produce no emissions or noise pollution. The back-up alarm is the main exception; however, this is a normal characteristic of internal combustion forklifts as well. 5. Operator equipment and fatigue is reduced in electric forklift models thanks to the automatic braking technology. 6. Electrical forklifts have longer intervals between maintenance than do internal combustion engine forklifts. This is largely due to the fewer moving parts required in a battery or fuel cell powered forklift. Disadvantages of Electric Forklifts For a variety of reasons, electric forklifts have become more popular in recent years over internal combustion models. However, there are still several applications that make electrical forklifts a less practical option. Certain electric forklift models disadvantages as compared to combustion models are listed below. 1. Since electric forklifts have a lift capacity of approximately 12,000 lbs. many jobs still choose to use an internal combustion model where there are heavy lifting requirements, even when they are only occasionally needed. 2. Facilities require recharging stations to accommodate electric forklift trucks. If there are none currently installed, this will cost significantly more. 3. Batteries need to be monitored to ensure adequate timing regarding how long they are charged. This is important since battery life can be reduced if they are charged too frequently or infrequently. 4. Electric forklift trucks cost more than internal combustion engine units. 5. Older facilities may require electrical upgrades for increased voltage systems to power battery forklifts. 6. Battery-powered units may rely on machinery to lower and lift the heavy replacement batteries during replacement. Overall, electric forklift trucks provide numerous advantages compared to internal combustion engines however, they may not work in a variety of outdoor applications with their weight and weather restrictions.