Electric Forklift

Used Electric Forklift Utah - An electric forklift is a forklift truck that uses an electric motor to generate power as opposed to an internal combustion model. The electricity source is derived from either 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 by means of a fuel cell is similar to a battery source but cannot be recharged by connecting to an electrical source, instead requiring refueling. Internal combustion engine forklift models and electrical forklifts can complete the same types of jobs. Both models utilize two power horizontal forks to load, transport and unload items. 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 The Class 3 Electric Hand-Rider Trucks or Electric Motor Hand models are hand controlled. This means the operator uses a steering tiller and is positioned in front of the machine as opposed to riding on the forklift. 4. Class 6: Electric and Internal Combustion Engine Tractors The Class 6 Internal Combustion Engine and Electric Tractors are another lineup. This category includes forklifts that can be utilized for many jobs. The electric units may be used in exterior applications in dry situations and also function well indoors. The types of forklift trucks that are usually electrically powered include: electric counterbalanced trucks, pallet jacks, scissor lifts, rider low lift trucks, order pickers, cushion tire forklifts, rider low stacker, reach truck, walkie low lift trucks, towing tractor trucks and walkie low stackers. Sources of Electricity for Electric Forklifts Electric forklifts are predominantly used indoors on flat, even surfaces. 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. Fuel cell powered forklifts also produce no local emissions and are often used in refrigerated warehouses because, unlike batteries, their performance is not reduced by the lower temperatures. Lead-acid battery The most popular type of rechargeable battery is lead-acid models. The battery’s ability to produce high surge currents ensures a large power-to-weight ratio. 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 Another type of rechargeable battery used in electric forklift trucks is lithium-ion or li-ion batteries. Explosions or fires may result in these batteries if they are improperly charged or damaged due to the flammable electrolyte they contain. Lithium-ion batteries initially cost more than lead-acid varieties, but they provide better efficiency and require no maintenance compared to lead-acid models. The Li-ion batteries can function with a broader temperature range compared to lead-acid batteries. Fuel Cell Forklifts with fuel-cell power showcase the benefits of both battery-operated forklift trucks and internal combustion models. 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. Fuels cell power offers better energy density and provides electric forklift trucks to run longer. Fuel cell forklift trucks operate better in cooler temperatures compared to li-ion battery models. For this reason, fuel cell powered

forklifts are often preferred for use in colder temperatures, such as refrigerated warehouses. Fuel cells are different from batteries in that they require a source of fuel to produce electrical current and so require refueling. However, they can be refueled in about three minutes, whereas batteries take much longer to recharge. Because of this, large operations which run several shifts and larger fleets of forklifts tend to benefit from the ability to keep the forklift operating without having to account for lengthy charging times. Pros and Cons of Electrically Powered Forklifts Advantages of Electric Forklifts Electric forklift trucks can often be a better option than internal combustion engine forklifts where a lift capacity does not exceed 12,000 pounds. 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. Certain advantages of the different types of forklift models are discussed below. 1. Operating costs can be much lower for battery powered electrical forklifts because of the ongoing and often increasing cost of fuel. 2. The cost of electricity is more predictable and more stable compared to combustible fuel; making electric forklifts a better choice when taking budgets and operating expenses into account. 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 fatigue and equipment wear and tear are reduced in electric forklift models with the automatic braking system. 6. Electric forklifts boast greater intervals between maintenance compared to internal combustion engine models. This is mainly because there are less moving parts required by a fuel cell or battery-powered forklift model. Disadvantages of Electric Forklifts For a variety of reasons, electric forklifts have become more popular in recent years over internal combustion models. Numerous circumstances however still prefer internal combustion forklifts. Certain electric forklift models disadvantages as compared to combustion models are listed below. 1. Electric forklifts typically have a limited lifting capacity of approximately 12,000 pounds or less which eliminates them as an option from larger jobs. Sometimes this means an internal combustion engine forklift is chosen even for jobsites where heavy jobs are few and far between but still a requirement. 2. Facilities require recharging stations to accommodate electric forklift trucks. If there are none currently installed, this will cost significantly more. 3. Batteries also require that attention be given to the timing and length of a charge. This is because the life of batteries can be reduced if charged too frequently or not enough. 4. Electric forklift trucks cost more than internal combustion engine units. 5. Certain older buildings may need to undergo electrical upgrades to accommodate increased voltage systems. 6. Battery powered forklifts sometimes require machinery to lift or lower the heavy batteries when replacement of batteries is necessary. All in all, electric forklifts have many advantages over internal combustion engine forklifts but still are not appropriate in many outdoor applications, mostly due to weather and weight restrictions.