**Electric Forklift**

Used Electric Forklift Iowa - Electric forklift models do not rely on combustion engines but use an electric motor instead. 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. The rechargeable batteries are lithium-ion or lead-acid batteries. 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. Electrical forklifts can do the same type of work as internal combustion engine forklifts. 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. Electrically powered forklifts are typically used in warehouses and other indoor facilities where an internal combustion engine would cause poor air quality for workers. 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 These forklifts can have pneumatic or cushion tires. Pneumatic tires are used on forklifts primarily operated outdoors in dry areas and on uneven surfaces whereas cushion tires are better on forklifts used primarily indoors, on smooth surfaces. 2. Class 2: Electric Motor Narrow Aisle Trucks These types of forklifts operate in very narrow aisles, where space is limited. This allows for maximum use of storage space. Class 2 forklifts have a modified design to minimize the amount of space taken up by the forklift. 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 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 Mostly, electric forklift models are used for interior applications on even, flat floors. Battery operated forklifts stop the emission of dangerous gases and are preferred for interior locations including food-processing facilities and healthcare. Forklifts that rely on fuel cells produce zero emissions, making them popular in refrigerated warehouses since their performance is not affected by lower temperatures the way batteries are. Lead-acid battery The most popular type of rechargeable battery is lead-acid models. Their capacity to supply high current surges allows for a significant ratio of power-to-weight. Electric forklift trucks rely on lead-acid batteries that are affordable and durable. It’s important to know that lead-acid batteries can possibly freeze during frigid temperatures and this type of battery requires on-going maintenance. Lithium-ion Battery Another type of rechargeable battery used in electric forklift trucks is lithium-ion or li-ion batteries. 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. Lithium-ion batteries initially cost more than lead-acid varieties, but they provide better efficiency and require no maintenance compared to lead-acid models. Another benefit is that the lithium-ion batteries can operate with a wider temperature range and better energy densities compared to lead-acid varieties. Fuel Cell Forklifts with fuel-cell power showcase the benefits of both battery-operated forklift trucks and internal combustion models. Fuel cell-powered forklifts provide no emissions like battery-powered forklift trucks. Fuel cell power efficiency is only forty to fifty percent which is roughly half as much as lithium- ion batteries. Fuels cell power offers better energy density and provides electric forklift trucks to run longer. Fuel cell powered forklifts also have the advantage of performing better in lower temperatures as lithium-ion batteries. Refrigerated warehouses rely on fuel cell models due to their ability to function in cooler locations. Fuel cells need a fuel source in order to create an electrical current and need refueling. However, they can be refueled in about three minutes, whereas batteries take much longer to recharge. 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 Electric forklifts are often a popular choice compared to internal combustion models if the lifting capacity doesn’t exceed 12,000 pounds. There are many factors to consider in each specific application in order to determine whether an electric forklift is the best option. It is necessary to discover the pros and cons of internal combustion engine forklift models versus electric forklift models prior to making a decision. Some of the advantages of an electrically powered forklift over an internal combustion engine are listed below. 1. Battery-powered electric forklift models have lower operating costs due to the increasing cost of fuel required constantly by internal combustion models. 2. The price of electricity is usually more stable and predictable than combustible fuel. This makes electrical forklifts a benefit when considering budget needs for projected operating expenses. 3. There are recharging stations for battery-powered electric forklift. This system eliminates the necessity for fuel storage and transportation for both the machine and the worksite. 4. Both fuel cell and battery-powered electric forklifts produce zero noise pollution or emissions. The only exception to this is the noise associated with the necessary back-up alarm. However, that is characteristic of internal combustion engine forklifts as well. 5. The automatic braking systems on electrical forklifts helps to reduce wear and operator fatigue. 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 Internal combustion forklifts have become less popular than electric forklifts over recent years. Numerous circumstances however still prefer internal combustion forklifts. 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. Battery powered electrical forklifts must be recharged and therefore require sufficient recharging stations to be installed at facilities where none are already present. This could amount to a significantly increased initial expense to the buyer. 3. Battery life can be affected by improper charging. They need to be regularly monitored to ensure they are not being charged too frequently or infrequently. 4. Internal combustion engine forklifts are also less expensive compared to electric forklift models. 5. Certain older buildings may need to undergo electrical upgrades to accommodate increased voltage systems. 6. Electric forklift trucks may need to use machinery to lift and lower the batteries into the unit during replacement due to their heavy nature. Electric forklift trucks have a wide range of benefits. They may not be adequate in certain working environments due to their weather and weight restrictions so check your job list accordingly.