

Forklift Alternators

Forklift Alternators - A device used to be able to transform mechanical energy into electrical energy is actually called an alternator. It could perform this function in the form of an electrical current. An AC electrical generator can in essence likewise be referred to as an alternator. However, the word is typically used to refer to a rotating, small device driven by internal combustion engines. Alternators which are situated in power stations and are powered by steam turbines are actually called turbo-alternators. Nearly all of these machines utilize a rotating magnetic field but at times linear alternators are also utilized.

A current is generated inside the conductor whenever the magnetic field all-around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core known as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input makes the rotor to revolve. This rotating magnetic field generates an AC voltage in the stator windings. Normally, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field generates 3 phase currents, displaced by one-third of a period with respect to each other.

In a "brushless" alternator, the rotor magnetic field could be made by production of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are usually located in bigger devices compared to those utilized in automotive applications. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding that allows control of the voltage generated by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current inside the rotor. These devices are limited in size due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.