

Forklift Alternators

Forklift Alternators - A device used so as to change mechanical energy into electric energy is referred to as an alternator. It could carry out this function in the form of an electrical current. An AC electrical generator could basically likewise be labeled an alternator. However, the word is typically used to refer to a small, rotating device powered by internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are actually called turbo-alternators. Most of these machines utilize a rotating magnetic field but every now and then linear alternators are likewise used.

When the magnetic field around a conductor changes, a current is produced inside the conductor and this is actually how alternators produce their electricity. Usually the rotor, which is a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is actually referred to as the stator. When the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces an AC voltage in the stator windings. Typically, there are 3 sets of stator windings. These physically offset so that the rotating magnetic field induces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these make use of slip rings and brushes with a rotor winding or a permanent magnet to induce a magnetic field of current. Brushless AC generators are normally located in larger machines such as industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually utilize a rotor winding which allows control of the voltage induced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current in 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.