

Forklift Alternators

Forklift Alternators - An alternator is a machine that converts mechanical energy into electric energy. This is done in the form of an electric current. In principal, an AC electric generator could also be called an alternator. The word normally refers to a rotating, small machine driven by automotive and other internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually called turbo-alternators. The majority of these devices use a rotating magnetic field but every so often linear alternators are likewise used.

A current is generated inside the conductor whenever the magnetic field surrounding the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field also called EMF is generated as the mechanical input causes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Usually, 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 caused by induction of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally located in bigger machines as opposed to those utilized in automotive applications. A rotor magnetic field may be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding which 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 in the rotor. These devices are restricted in size because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.