

Forklift Alternator

Forklift Alternators - An alternator is actually a machine which converts mechanical energy into electric energy. This is done in the form of an electrical current. In essence, an AC electric generator could also be referred to as an alternator. The word typically refers to a small, rotating device driven by automotive and different internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are referred to as turbo-alternators. The majority of these machines utilize a rotating magnetic field but occasionally linear alternators are likewise used.

A current is generated in the conductor when the magnetic field around the conductor changes. Usually the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core called the stator. If the field cuts across the conductors, an induced electromagnetic field also called EMF is produced as the mechanical input causes 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 induces 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 lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally located in larger machines than 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 often use a rotor winding which allows control of the voltage induced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current within the rotor. These machines are restricted in size due to the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.