

Forklift Alternator

Forklift Alternator - An alternator is actually a device which transforms mechanical energy into electrical energy. This is done in the form of an electrical current. In essence, an AC electrical generator can likewise be called an alternator. The word normally refers to a rotating, small device driven by automotive and various internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually referred to as turbo-alternators. The majority of these devices utilize a rotating magnetic field but sometimes linear alternators are also utilized.

A current is induced within the conductor if 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. If the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input causes the rotor to revolve. This rotating magnetic field generates an AC voltage in the stator windings. Usually, there are 3 sets of stator windings. These are 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 use slip rings and brushes together with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushless AC generators are normally found in bigger devices like for instance industrial sized lifting equipment. A rotor magnetic field could be produced 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. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current inside the rotor. These machines are restricted in size because of the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.