

Forklift Alternators

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electrical energy. This is done in the form of an electric current. In principal, an AC electric generator can likewise be called an alternator. The word normally refers to a small, rotating machine driven by automotive and different internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are referred to as turbo-alternators. Most of these machines utilize a rotating magnetic field but every now and then linear alternators are also utilized.

Whenever the magnetic field around a conductor changes, a current is induced within the conductor and this is actually the way alternators produce their electrical energy. Often the rotor, which is actually a rotating magnet, turns within a stationary set of conductors wound in coils located on an iron core which is called the stator. When the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input makes the rotor to revolve. 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 produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these use slip rings and brushes with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushless AC generators are most often found in larger machines like for instance industrial sized lifting equipment. A rotor magnetic field can be induced 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 produced by the alternator. It does this 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 limited 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.