

Forklift Alternator

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

When the magnetic field around a conductor changes, a current is generated inside the conductor and this is actually how alternators produce their electricity. Normally the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils situated on an iron core which is referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated 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 can be caused by induction of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are often located in bigger devices compared to those used 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. This is done by varying the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current inside the rotor. These devices are restricted in size because of the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.