

Forklift Alternator

Forklift Alternator - An alternator is a machine that transforms mechanical energy into electric energy. It does this in the form of an electric current. Basically, an AC electric generator could likewise be called an alternator. The word typically refers to a rotating, small device driven by automotive and various internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are actually known as turbo-alternators. Most of these machines make use of a rotating magnetic field but from time to time linear alternators are likewise utilized.

When the magnetic field around a conductor changes, a current is produced inside the conductor and this is how alternators produce their electrical energy. Usually the rotor, which is actually a rotating magnet, revolves 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 also called EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field produces 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 produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these utilize slip rings and brushes together with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushless AC generators are normally located in bigger machines such as industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often make use of a rotor winding which allows control of the voltage generated 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 in the rotor. These machines are restricted in size due to the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.