Forklift Alternator

Forklift Alternators - A machine utilized in order to change mechanical energy into electrical energy is called an alternator. It can perform this function in the form of an electrical current. An AC electric generator can in essence be referred to as an alternator. Then again, the word is typically utilized to refer to a rotating, small machine driven by internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are actually referred to as turbo-alternators. Nearly all of these devices make use of a rotating magnetic field but every so often linear alternators are utilized.

If the magnetic field surrounding a conductor changes, a current is generated in the conductor and this is how alternators produce their electrical energy. Normally 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. When the field cuts across the conductors, an induced electromagnetic field or 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 generates 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. Brushlees AC generators are normally found in bigger machines such as industrial sized lifting equipment. A rotor magnetic field may be induced 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 induced 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 in the rotor. These devices are restricted in size due to the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.