Forklift Alternators

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electrical energy. This is done in the form of an electrical current. In principal, an AC electric generator can likewise be labeled an alternator. The word normally refers to a small, rotating device powered by automotive and other internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are actually called turbo-alternators. Most of these devices use a rotating magnetic field but every now and then linear alternators are likewise used.

A current is induced within the conductor when the magnetic field around the conductor changes. Normally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are located on an iron core known as the stator. If the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input makes the rotor to turn. 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 generates 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these make use of slip rings and brushes together with a rotor winding or a permanent magnet in order to produce a magnetic field of current. Brushlees AC generators are normally located in larger devices like for instance industrial sized lifting equipment. A rotor magnetic field could be induced by a stationary field winding with moving poles in the rotor. Automotive alternators often use 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 within the rotor. These machines are restricted in size due to the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.