Forklift Alternators

Forklift Alternator - An alternator is a device which converts mechanical energy into electrical energy. It does this in the form of an electric current. In essence, an AC electrical generator can likewise be labeled an alternator. The word normally refers to a rotating, small machine powered by automotive and various internal combustion engines. Alternators which are placed in power stations and are driven by steam turbines are called turbo-alternators. The majority of these devices utilize a rotating magnetic field but every so often linear alternators are likewise utilized.

A current is generated inside the conductor if the magnetic field around the conductor changes. Generally the rotor, a rotating magnet, spins within a set of stationary conductors wound in coils. The coils are situated on an iron core referred to as the stator. Whenever the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input causes the rotor to turn. This rotating magnetic field generates 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.

In a "brushless" alternator, the rotor magnetic field can be made by induction of a lasting magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally found in larger devices compared to those utilized in automotive applications. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding which allows control of the voltage induced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current in the rotor. These machines 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.