Forklift Alternator

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electric energy. This is done in the form of an electric current. In essence, an AC electrical generator could be labeled an alternator. The word typically refers to a rotating, small machine driven by automotive and other internal combustion engines. Alternators which are located in power stations and are powered by steam turbines are called turbo-alternators. Most of these devices utilize a rotating magnetic field but sometimes linear alternators are likewise utilized.

If the magnetic field all-around a conductor changes, a current is produced in the conductor and this is actually the way alternators generate their electricity. Usually the rotor, which is actually a rotating magnet, revolves within a stationary set of conductors wound in coils located on an iron core which is actually known as the stator. When the field cuts across the conductors, an induced electromagnetic field likewise called EMF is produced as the mechanical input causes the rotor to turn. 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 make use of slip rings and brushes together with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushlees AC generators are usually located in bigger devices like for instance industrial sized lifting equipment. A rotor magnetic field may be produced by a stationary field winding with moving poles in the rotor. Automotive alternators normally utilize a rotor winding that allows control of the voltage generated by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of 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.