

Forklift Alternator

Forklift Alternators - An alternator is actually a machine which 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 referred to as an alternator. The word normally refers to a small, rotating machine driven by automotive and other internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are called turbo-alternators. Most of these machines make use of a rotating magnetic field but every now and then linear alternators are also utilized.

A current is produced inside the conductor whenever 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 called the stator. If 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 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 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 caused by production of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are usually located in bigger machines than those utilized in automotive applications. 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 that allows control of the voltage induced by the alternator. It does this by changing the current in the rotor field winding. Permanent magnet machines avoid the loss due to the magnetizing current inside 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.