

Alternator for Forklift

Alternator for Forklift - An alternator is a machine which transforms mechanical energy into electric energy. This is done in the form of an electrical current. In essence, an AC electrical generator can also be referred to as an alternator. The word typically refers to a rotating, small machine driven by automotive and various internal combustion engines. Alternators which are placed in power stations and are powered by steam turbines are called turbo-alternators. The majority of these machines utilize a rotating magnetic field but every now and then linear alternators are likewise used.

Whenever the magnetic field all-around a conductor changes, a current is generated inside the conductor and this is how alternators produce their electrical energy. Usually 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 likewise called EMF is produced as the mechanical input makes the rotor to revolve. 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 induces 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 production of a permanent magnet or by a rotor winding energized with direct current through slip rings and brushes. Brushless AC generators are normally located in bigger devices compared to those utilized in automotive applications. A rotor magnetic field could be produced by a stationary field winding with moving poles in the rotor. Automotive alternators usually make use of a rotor winding that allows control of the voltage produced by the alternator. It does this by varying the current in the rotor field winding. Permanent magnet devices avoid the loss because of the magnetizing current in the rotor. These machines are limited in size due to the price of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.