

Alternator for Forklift

Alternator for Forklift - An alternator is actually a machine that converts mechanical energy into electrical energy. It does this in the form of an electric current. In essence, an AC electrical generator can be referred to as an alternator. The word normally refers to a small, rotating machine powered by automotive and different internal combustion engines. Alternators which are situated in power stations and are powered by steam turbines are actually called turbo-alternators. Most of these machines utilize a rotating magnetic field but every so often linear alternators are likewise used.

A current is produced within the conductor when the magnetic field all-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 referred to as 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. Normally, 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.

"Brushless" alternators - these make use of brushes and slip rings with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushless AC generators are usually found in bigger machines like industrial sized lifting equipment. A rotor magnetic field could be generated by a stationary field winding with moving poles in the rotor. Automotive alternators normally make use of a rotor winding that allows control of the voltage induced by the alternator. This is done by changing the current in the rotor field winding. Permanent magnet machines avoid the loss because of the magnetizing current within the rotor. These devices are restricted 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.