

Forklift Alternators

Alternator for Forklift - An alternator is actually a machine that transforms mechanical energy into electrical energy. This is done in the form of an electrical current. Basically, an AC electrical generator can also be called an alternator. The word usually refers to a small, rotating machine powered by automotive and different internal combustion engines. Alternators which are situated in power stations and are driven by steam turbines are known as turbo-alternators. The majority of these devices use a rotating magnetic field but occasionally linear alternators are also used.

When the magnetic field all-around a conductor changes, a current is generated within the conductor and this is how alternators generate their electricity. Normally the rotor, which is a rotating magnet, revolves within a stationary set of conductors wound in coils situated on an iron core which is actually referred to as the stator. If the field cuts across the conductors, an induced electromagnetic field or EMF is generated as the mechanical input makes the rotor to revolve. This rotating magnetic field produces an AC voltage in the stator windings. Usually, 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 permanent magnet or by a rotor winding energized with direct current through brushes and slip rings. Brushless AC generators are normally found in larger devices compared to those used in automotive applications. A rotor magnetic field may be induced by a stationary field winding with moving poles in the rotor. Automotive alternators often use a rotor winding which allows control of the voltage induced by the alternator. This is done by varying the current in the rotor field winding. Permanent magnet devices avoid the loss due to the magnetizing current in the rotor. These devices are restricted in size because of the price of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.