

Alternator for Forklift

Forklift Alternators - A machine used in order to change mechanical energy into electrical energy is called an alternator. It could carry out this function in the form of an electric current. An AC electrical generator could in principal be referred to as an alternator. Nonetheless, the word is typically used to refer to a rotating, small device powered by internal combustion engines. Alternators that are situated in power stations and are driven by steam turbines are known as turbo-alternators. The majority of these devices make use of a rotating magnetic field but every now and then linear alternators are also used.

If the magnetic field all-around a conductor changes, a current is produced inside the conductor and this is how alternators generate their electricity. Often the rotor, which is a rotating magnet, turns within a stationary set of conductors wound in coils situated on an iron core which is known as the stator. If the field cuts across the conductors, an induced electromagnetic field otherwise called EMF is generated as the mechanical input causes the rotor to turn. This rotating magnetic field generates an AC voltage in the stator windings. Typically, 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 with a rotor winding or a permanent magnet in order to induce a magnetic field of current. Brushless AC generators are usually found in larger machines such as industrial sized lifting equipment. A rotor magnetic field can be produced by a stationary field winding with moving poles in the rotor. Automotive alternators often use 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 devices are restricted in size due to the cost of the magnet material. The terminal voltage varies with the speed of the generator as the permanent magnet field is constant.