

Alternator for Forklift

Forklift Alternators - An alternator is a machine that transforms mechanical energy into electrical energy. It does this in the form of an electrical current. In essence, an AC electric generator can likewise be referred to as an alternator. The word usually refers to a rotating, small device powered by automotive and other internal combustion engines. Alternators which are located 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 at times linear alternators are utilized.

When the magnetic field all-around a conductor changes, a current is induced 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 located on an iron core which is called the stator. When the field cuts across the conductors, an induced electromagnetic field or EMF is produced as the mechanical input makes 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 produces 3 phase currents, displaced by one-third of a period with respect to each other.

"Brushless" alternators - these use slip rings and brushes together with a rotor winding or a permanent magnet to be able to generate a magnetic field of current. Brushless AC generators are usually located in bigger devices such as industrial sized lifting equipment. A rotor magnetic field can be generated by a stationary field winding with moving poles in the rotor. Automotive alternators usually use a rotor winding that allows control of the voltage induced by the alternator. It does this by varying 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 because of the cost of the magnet material. As the permanent magnet field is constant, the terminal voltage varies directly with the generator speed.