Torque Converter for Forklifts

Forklift Torque Converter - A torque converter is a fluid coupling which is used to transfer rotating power from a prime mover, which is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is same as a basic fluid coupling to take the place of a mechanical clutch. This enables the load to be separated from the main power source. A torque converter can offer the equivalent of a reduction gear by being able to multiply torque if there is a considerable difference between output and input rotational speed.

The most popular type of torque converter used in auto transmissions is the fluid coupling type. In the 1920s there was also the Constantinesco or also known as pendulum-based torque converter. There are various mechanical designs used for constantly variable transmissions that could multiply torque. For example, the Variomatic is one type which has a belt drive and expanding pulleys.

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an element called a stator. This alters the drive's characteristics through times of high slippage and generates an increase in torque output.

There are a minimum of three rotating parts inside a torque converter: the turbine, that drives the load, the impeller, which is mechanically driven by the prime mover and the stator, that is between the impeller and the turbine so that it can alter oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under any situation and this is where the term stator begins from. In point of fact, the stator is mounted on an overrunning clutch. This design prevents the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

In the three element design there have been adjustments which have been incorporated periodically. Where there is higher than normal torque manipulation is needed, changes to the modifications have proven to be worthy. Usually, these adjustments have taken the form of several turbines and stators. Each and every set has been meant to generate differing amounts of torque multiplication. Several instances consist of the Dynaflow that makes use of a five element converter so as to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Different automobile converters include a lock-up clutch to be able to reduce heat and to be able to enhance the cruising power and transmission efficiency, though it is not strictly component of the torque converter design. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical which eliminates losses connected with fluid drive.