Torque Converter for Forklift

Torque Converter for Forklifts - A torque converter in modern usage, is normally a fluid coupling that is used so as to transfer rotating power from a prime mover, like for example an electric motor or an internal combustion engine, to a rotating driven load. Like a basic fluid coupling, the torque converter takes the place of a mechanical clutch. This allows the load to be separated from the main power source. A torque converter can provide the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between output and input rotational speed.

The most common kind of torque converter utilized in auto transmissions is the fluid coupling model. During the 1920s there was even the Constantinesco or also known as pendulum-based torque converter. There are different mechanical designs used for constantly changeable transmissions which can multiply torque. For example, the Variomatic is a version that has expanding pulleys and a belt drive.

A fluid coupling is a 2 element drive which cannot multiply torque. A torque converter has an additional element that is the stator. This alters the drive's characteristics all through occasions of high slippage and generates an increase in torque output.

There are a at least three rotating parts within a torque converter: the turbine, which drives the load, the impeller, that is mechanically driven by the prime mover and the stator, which is between the turbine and the impeller so that it can alter oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be prevented from rotating under any condition and this is where the term stator originates from. In fact, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still allowing forward rotation.

In the three element design there have been modifications that have been integrated at times. Where there is higher than normal torque manipulation is required, changes to the modifications have proven to be worthy. Usually, these alterations have taken the form of many stators and turbines. Each set has been meant to produce differing amounts of torque multiplication. Various examples consist of the Dynaflow that uses a five element converter to be able to generate the wide range of torque multiplication required to propel a heavy vehicle.

Although it is not strictly a component of classic torque converter design, various automotive converters consist of a lock-up clutch to lessen heat and to be able to improve cruising power transmission effectiveness. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical which eliminates losses related with fluid drive.