Torque Converter for Forklifts

Torque Converters for Forklifts - A torque converter in modern usage, is normally a fluid coupling which is used to be able 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 mechanized 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 whenever there is a substantial difference between input and output rotational speed.

The fluid coupling model is the most common kind of torque converter used in automobile transmissions. During the 1920's there were pendulum-based torque or Constantinesco converter. There are various mechanical designs used for always variable transmissions that have the ability to multiply torque. Like for example, the Variomatic is a version that has expanding pulleys and a belt drive.

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

Within a torque converter, there are at least of three rotating parts: the turbine, to be able to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the turbine and the impeller so that it can change oil flow returning from the turbine to the impeller. Normally, the design of the torque converter dictates that the stator be prevented from rotating under any condition and this is where the word stator starts 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.

Changes to the basic three element design have been integrated at times. These alterations have proven worthy specially in application where higher than normal torque multiplication is needed. Usually, these adjustments have taken the form of multiple stators and turbines. Every set has been intended to generate differing amounts of torque multiplication. Various examples consist of the Dynaflow that uses a five element converter in order to generate the wide range of torque multiplication needed to propel a heavy vehicle.

While it is not strictly a component of classic torque converter design, various automotive converters comprise a lock-up clutch to be able to reduce heat and 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 associated with fluid drive.