

Forklift Torque Converter

Torque Converters for Forklifts - A torque converter in modern usage, is normally a fluid coupling that is utilized to be able to transfer rotating power from a prime mover, like for example an internal combustion engine or an electrical motor, to a rotating driven load. Similar to a basic fluid coupling, the torque converter takes the place of a mechanized clutch. This allows 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 when there is a significant difference between input and output rotational speed.

The fluid coupling unit is actually the most common type of torque converter used in auto transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are various mechanical designs utilized for constantly variable transmissions that could multiply torque. Like for example, the Variomatic is one kind which has a belt drive and expanding pulleys.

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

Within a torque converter, there are a minimum of three rotating components: the turbine, to be able to drive the load, the impeller that is driven mechanically driven by the prime mover and the stator. The stator is between the turbine and the impeller so that it could change 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 whichever condition and this is where the term stator starts from. In reality, the stator is mounted on an overrunning clutch. This particular design stops the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

Alterations to the basic three element design have been incorporated sometimes. These adjustments have proven worthy specially in application where higher than normal torque multiplication is considered necessary. More often than not, these alterations have taken the form of many stators and turbines. Each set has been designed to produce differing amounts of torque multiplication. Various examples consist of the Dynaflo that makes use of a five element converter so as to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Even though it is not strictly a part of classic torque converter design, different automotive converters comprise a lock-up clutch to be able to reduce heat and so as to improve cruising power transmission efficiency. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical which eliminates losses connected with fluid drive.