

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is usually a fluid coupling that is used to transfer rotating power from a prime mover, for example an internal combustion engine or an electrical motor, to a rotating driven load. Same as 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 could offer the equivalent of a reduction gear by being able to multiply torque whenever there is a considerable difference between output and input rotational speed.

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

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an component known as a stator. This changes the drive's characteristics during occasions of high slippage and produces an increase in torque output.

Within a torque converter, there are a minimum of three rotating parts: the turbine, in order 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 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 whatever condition and this is where the word stator starts from. In truth, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

In the three element design there have been modifications that have been incorporated sometimes. Where there is higher than normal torque manipulation is needed, alterations to the modifications have proven to be worthy. More often than not, these modifications have taken the form of various stators and turbines. Every set has been intended to produce differing amounts of torque multiplication. Various instances include the Dynaflo that utilizes 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 component of classic torque converter design, different automotive converters include a lock-up clutch to reduce heat and to enhance cruising power transmission effectiveness. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical that eliminates losses associated with fluid drive.