

Forklift Torque Converters

Forklift Torque Converters - A torque converter in modern usage, is commonly a fluid coupling which is used in order to transfer rotating power from a prime mover, for example an electric motor or an internal combustion engine, to a rotating driven load. Same as 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 output and input rotational speed.

The fluid coupling unit is the most popular type of torque converter used in auto transmissions. In the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are various mechanical designs for continuously variable transmissions that could multiply torque. For example, the Variomatic is a version that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which is incapable of multiplying torque. A torque converter has an additional component which is the stator. This changes the drive's characteristics during times of high slippage and generates an increase in torque output.

There are a minimum of three rotating components in 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 turbine and the impeller so that it can 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 whatever condition and this is where the word stator originates 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 enabling forward rotation.

In the three element design there have been modifications which have been incorporated periodically. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. More often than not, these modifications have taken the form of several turbines and stators. Each and every set has been meant to produce differing amounts of torque multiplication. Various instances comprise the Dynaflo which utilizes a five element converter in order to produce the wide range of torque multiplication required to propel a heavy vehicle.

Various car converters include a lock-up clutch to lessen heat and to improve the cruising power and transmission effectiveness, even if 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.