

## Forklift Torque Converters

Forklift Torque Converter - A torque converter in modern usage, is normally 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. 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 if there is a substantial difference between output and input rotational speed.

The fluid coupling type is the most common kind of torque converter used in automobile transmissions. In the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are various mechanical designs used for continuously variable transmissions which could multiply torque. Like for instance, the Variomatic is a type which has expanding pulleys and a belt drive.

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

Inside a torque converter, there are a minimum of three rotating parts: the turbine, 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. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under any condition and this is where the term stator starts from. In fact, the stator is mounted on an overrunning clutch. This particular 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 integrated sometimes. Where there is higher than normal torque manipulation is needed, changes to the modifications have proven to be worthy. Usually, these modifications have taken the form of many turbines and stators. Every set has been designed to produce differing amounts of torque multiplication. Several examples include the Dynaflo that utilizes a five element converter in order to produce the wide range of torque multiplication required to propel a heavy vehicle.

Various auto converters include a lock-up clutch to lessen heat and in order to improve the cruising power and transmission efficiency, although it is not strictly part of the torque converter design. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical that eliminates losses connected with fluid drive.