

Forklift Torque Converters

Forklift Torque Converter - A torque converter is actually a fluid coupling that is utilized to be able to transfer rotating power from a prime mover, that is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is similar to a basic fluid coupling to take 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 significant difference between output and input rotational speed.

The fluid coupling unit is the most popular type of torque converter used in car transmissions. In the 1920's there were pendulum-based torque or likewise called Constantinesco converter. There are other mechanical designs for always variable transmissions which can multiply torque. For example, the Variomatic is a version which 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 extra part that is the stator. This changes the drive's characteristics during occasions of high slippage and produces an increase in torque output.

Inside a torque converter, there are a minimum of three rotating parts: the turbine, in order 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 could change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under whatever condition and this is where the term stator begins from. In point of fact, 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.

In the three element design there have been adjustments which have been integrated at times. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. Usually, these modifications have taken the form of several turbines and stators. Each set has been intended to produce differing amounts of torque multiplication. Some examples include the Dynaflo which makes use of a five element converter in order to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Although it is not strictly a part of classic torque converter design, various automotive converters include a lock-up clutch so as to reduce heat and so as to improve cruising power transmission efficiency. 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.