

Forklift Torque Converters

Forklift Torque Converters - A torque converter in modern usage, is usually a fluid coupling which is utilized in order to transfer rotating power from a prime mover, like for instance 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 whenever there is a significant difference between output and input rotational speed.

The fluid coupling unit is 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 continuously changeable transmissions which have the ability to multiply torque. For example, the Variomatic is one kind which has expanding pulleys and a belt drive.

A fluid coupling is a 2 element drive that cannot multiply torque. A torque converter has an added element that is the stator. This changes the drive's characteristics during occasions of high slippage and generates an increase in torque output.

Within a torque converter, there are at least of three rotating parts: the turbine, to be able to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it can alter 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 word stator originates from. Actually, 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 alterations which have been incorporated periodically. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. Most commonly, these alterations have taken the form of various turbines and stators. Each and every set has been intended to produce differing amounts of torque multiplication. Various instances include the Dynaflo that uses a five element converter to be able to produce the wide range of torque multiplication required to propel a heavy vehicle.

Though it is not strictly a component of classic torque converter design, various automotive converters comprise a lock-up clutch to reduce heat and 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 which eliminates losses related with fluid drive.