

Forklift Torque Converters

Forklift Torque Converter - A torque converter in modern usage, is normally a fluid coupling that is utilized 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 mechanical 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 when there is a significant difference between output and input rotational speed.

The fluid coupling type is actually the most popular kind of torque converter utilized in automobile transmissions. During the 1920's there were pendulum-based torque or also called Constantinesco converter. There are other mechanical designs used for continuously variable transmissions that can multiply torque. Like for example, the Variomatic is one type that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which cannot multiply torque. A torque converter has an extra part which is the stator. This changes the drive's characteristics during times of high slippage and produces an increase in torque output.

There are at least three rotating components within 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 impeller and the turbine so that it can change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be stopped from rotating under any situation and this is where the word stator originates from. Actually, 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.

Adjustments to the basic three element design have been integrated sometimes. These modifications have proven worthy particularly in application where higher than normal torque multiplication is needed. More often than not, these alterations have taken the form of many turbines and stators. Each set has been meant to generate differing amounts of torque multiplication. Several instances comprise the Dynaflo which uses a five element converter so as to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Various automobile converters include a lock-up clutch so as to lessen heat and to enhance the cruising power and transmission effectiveness, though 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.