Forklift Torque Converters

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is utilized 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 allows the load to be separated from the main power source. A torque converter can provide the equivalent of a reduction gear by being able to multiply torque when there is a considerable difference between output and input rotational speed.

The most popular type of torque converter utilized in automobile transmissions is the fluid coupling type. During the 1920s there was even the Constantinesco or also known as pendulum-based torque converter. There are various mechanical designs used for continuously changeable transmissions that could multiply torque. Like 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 that is the stator. This alters the drive's characteristics during occasions of high slippage and generates an increase in torque output.

Within a torque converter, there are a minimum of three rotating elements: the turbine, 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 could alter oil flow returning from the turbine to the impeller. Normally, the design of the torque converter dictates that the stator be prevented from rotating under any situation 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 allowing forward rotation.

Adjustments to the basic three element design have been integrated periodically. These alterations have proven worthy especially in application where higher than normal torque multiplication is considered necessary. Most commonly, these adjustments have taken the form of several turbines and stators. Every set has been designed to generate differing amounts of torque multiplication. Various instances include the Dynaflow which utilizes a five element converter to be able to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Various auto converters consist of a lock-up clutch in order to reduce heat and in order to improve the cruising power and transmission effectiveness, though it is not strictly component of the torque converter design. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical which eliminates losses related with fluid drive.