Forklift Torque Converter

Forklift Torque Converter - A torque converter in modern usage, is usually a fluid coupling that is used to be able 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 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 if there is a considerable difference between output and input rotational speed.

The most popular type of torque converter used in auto transmissions is the fluid coupling unit. During the 1920s there was even the Constantinesco or otherwise known as pendulum-based torque converter. There are various mechanical designs used for always variable transmissions that have the ability to multiply torque. Like 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 additional component which is the stator. This changes the drive's characteristics during occasions of high slippage and produces an increase in torque output.

There are a at least three rotating parts within a torque converter: the turbine, that drives the load, the impeller, that is mechanically driven by the prime mover and the stator, which is between the turbine and the impeller so that it could alter 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 any situation and this is where the term stator originates from. Actually, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still allowing forward rotation.

Alterations to the basic three element design have been integrated sometimes. These alterations have proven worthy especially in application where higher than normal torque multiplication is needed. More often than not, these alterations have taken the form of various turbines and stators. Every set has been intended to generate differing amounts of torque multiplication. Various instances comprise the Dynaflow that utilizes a five element converter so as to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Even though it is not strictly a part of classic torque converter design, various automotive converters consist of a lock-up clutch in order to reduce heat and to be able to enhance cruising power transmission effectiveness. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical which eliminates losses connected with fluid drive.