Forklift Torque Converters

Forklift Torque Converter - A torque converter in modern usage, is normally a fluid coupling that is used to transfer rotating power from a prime mover, for instance an internal combustion engine or an electrical motor, 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 provide the equivalent of a reduction gear by being able to multiply torque when there is a significant difference between input and output rotational speed.

The fluid coupling unit is 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 for always variable transmissions which could multiply torque. For instance, the Variomatic is one version that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive that is incapable of multiplying torque. A torque converter has an extra component that is the stator. This changes the drive's characteristics during times of high slippage and produces an increase in torque output.

Inside a torque converter, there are a minimum of three rotating components: 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 alter 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 whichever condition and this is where the term stator begins 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 allowing forward rotation.

Adjustments to the basic three element design have been integrated sometimes. These changes have proven worthy specially in application where higher than normal torque multiplication is needed. Usually, these adjustments have taken the form of multiple stators and turbines. Every set has been meant to generate differing amounts of torque multiplication. Various examples comprise the Dynaflow that makes use of a five element converter to be able to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Various car converters comprise a lock-up clutch in order to reduce heat and to enhance the cruising power and transmission effectiveness, although 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 that eliminates losses connected with fluid drive.