Forklift Torque Converters

Torque Converters for Forklift - A torque converter in modern usage, is usually a fluid coupling that is utilized 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 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 whenever there is a substantial difference between output and input rotational speed.

The most popular type of torque converter used in car transmissions is the fluid coupling type. In the 1920s there was also the Constantinesco or otherwise known as pendulum-based torque converter. There are various mechanical designs utilized for constantly changeable transmissions which can multiply torque. For example, the Variomatic is a kind that has expanding pulleys and a belt drive.

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an element referred to as a stator. This alters the drive's characteristics throughout times of high slippage and generates an increase in torque output.

Within a torque converter, there are a minimum of three rotating elements: 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 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. 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 enabling forward rotation.

Alterations to the basic three element design have been incorporated periodically. These alterations have proven worthy especially in application where higher than normal torque multiplication is required. Most commonly, these modifications have taken the form of multiple turbines and stators. Every set has been designed to generate differing amounts of torque multiplication. Several instances consist of the Dynaflow which uses a five element converter so as to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Even though it is not strictly a part of classic torque converter design, various automotive converters comprise a lock-up clutch in order to lessen heat and so as 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 related with fluid drive.