Torque Converter for Forklifts

Torque Converter for Forklifts - A torque converter in modern usage, is commonly a fluid coupling that is used in order 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 mechanized clutch. This allows 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 substantial difference between output and input rotational speed.

The fluid coupling type is the most popular kind of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are different mechanical designs utilized for constantly variable transmissions which can multiply torque. For example, the Variomatic is a type which has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which could not multiply torque. A torque converter has an added component which is the stator. This alters the drive's characteristics all through times of high slippage and produces an increase in torque output.

There are a at least three rotating components within a torque converter: the turbine, which drives the load, the impeller, that is mechanically driven by the prime mover and the stator, which is between the impeller and the turbine so that it could change 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 whatever condition and this is where the term stator starts from. In point of fact, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

Adjustments to the basic three element design have been incorporated sometimes. These adjustments have proven worthy especially in application where higher than normal torque multiplication is needed. More often than not, these modifications have taken the form of various stators and turbines. Each set has been designed to generate differing amounts of torque multiplication. Some instances include the Dynaflow that 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 component of classic torque converter design, various automotive converters consist of a lock-up clutch 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 connected with fluid drive.