Torque Converters for Forklifts

Forklift Torque Converters - A torque converter is a fluid coupling that is used so as to transfer rotating power from a prime mover, that is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is similar to a basic fluid coupling to take the place of a mechanized clutch. This allows the load to be separated from the main power source. A torque converter could offer the equivalent of a reduction gear by being able to multiply torque whenever there is a significant difference between input and output rotational speed.

The fluid coupling type is actually the most popular kind of torque converter used in car transmissions. In the 1920's there were pendulum-based torque or Constantinesco converter. There are other mechanical designs utilized for always changeable transmissions that could multiply torque. For example, the Variomatic is one version which has expanding pulleys and a belt drive.

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

Inside a torque converter, there are at least of three rotating components: the turbine, to be able 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. Usually, the design of the torque converter dictates that the stator be prevented from rotating under any situation and this is where the word stator starts from. Actually, the stator is mounted on an overrunning clutch. This particular design prevents 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 incorporated sometimes. These changes have proven worthy especially in application where higher than normal torque multiplication is considered necessary. More often than not, these modifications have taken the form of multiple turbines and stators. Every set has been intended to produce differing amounts of torque multiplication. Several examples consist of the Dynaflow that makes use of a five element converter so as to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Various car converters comprise a lock-up clutch to be able to reduce heat and so as to enhance the cruising power and transmission effectiveness, even though it is not strictly part 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.