Torque Converters for Forklift

Forklift Torque Converter - A torque converter in modern usage, is normally a fluid coupling which 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. Like 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 offer the equivalent of a reduction gear by being able to multiply torque if there is a significant difference between output and input rotational speed.

The most common type of torque converter used in automobile transmissions is the fluid coupling type. In the 1920s there was also the Constantinesco or also known as pendulum-based torque converter. There are various mechanical designs for constantly variable transmissions which could multiply torque. Like for example, the Variomatic is one kind 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 additional part that is the stator. This changes the drive's characteristics throughout times of high slippage and produces an increase in torque output.

There are a minimum of three rotating components within a torque converter: the turbine, that drives the load, the impeller, that is mechanically driven by the prime mover and the stator, that is between the turbine and the impeller so that it could change 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 whatever situation and this is where the term stator starts from. In point of fact, 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 permitting forward rotation.

Changes to the basic three element design have been integrated periodically. These changes have proven worthy specially in application where higher than normal torque multiplication is considered necessary. Usually, these adjustments have taken the form of several stators and turbines. Each set has been intended to generate differing amounts of torque multiplication. Some examples comprise the Dynaflow which utilizes a five element converter so as to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Different automobile converters comprise a lock-up clutch to be able to reduce heat and in order to improve 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 turbine to the impeller. This causes all power transmission to be mechanical that eliminates losses related with fluid drive.