Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is normally a fluid coupling which is utilized so as to transfer rotating power from a prime mover, like for example 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 enables 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 considerable difference between input and output rotational speed.

The fluid coupling type is actually the most popular kind of torque converter used in automobile transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are different mechanical designs for always variable transmissions that have the ability to multiply torque. Like for example, the Variomatic is a kind that has expanding pulleys and a belt drive.

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

In 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 stopped from rotating under any situation and this is where the word stator begins from. In 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.

Modifications to the basic three element design have been incorporated periodically. These modifications have proven worthy specially in application where higher than normal torque multiplication is considered necessary. Usually, these alterations have taken the form of several turbines and stators. Each and every set has been meant to generate differing amounts of torque multiplication. Several instances include the Dynaflow which utilizes a five element converter in order to produce the wide range of torque multiplication required to propel a heavy vehicle.

Although it is not strictly a part of classic torque converter design, different automotive converters consist of a lock-up clutch so as to lessen heat and in order to improve cruising power transmission efficiency. 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.