Torque Converters for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is normally a fluid coupling which is utilized 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 mechanical clutch. This allows the load to be separated from the main power source. A torque converter could provide the equivalent of a reduction gear by being able to multiply torque whenever there is a substantial difference between input and output rotational speed.

The most common kind of torque converter used in automobile transmissions is the fluid coupling unit. During the 1920s there was likewise the Constantinesco or pendulum-based torque converter. There are different mechanical designs used for constantly variable transmissions which have the ability to multiply torque. Like for instance, the Variomatic is one version that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which is incapable of multiplying torque. A torque converter has an added element which is the stator. This alters the drive's characteristics throughout occasions of high slippage and produces an increase in torque output.

There are a at least three rotating parts inside a torque converter: the turbine, which drives the load, the impeller, which is mechanically driven by the prime mover and the stator, that is between the turbine and the impeller so that it could alter 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 whichever situation and this is where the term stator originates from. In reality, the stator is mounted on an overrunning clutch. This particular design stops the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

In the three element design there have been alterations which have been integrated sometimes. Where there is higher than normal torque manipulation is required, adjustments to the modifications have proven to be worthy. Most commonly, these adjustments have taken the form of multiple turbines and stators. Each set has been designed to generate differing amounts of torque multiplication. Several examples consist of the Dynaflow that uses a five element converter to be able to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Different car converters comprise a lock-up clutch in order to lessen heat and to improve the cruising power and transmission effectiveness, 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 connected with fluid drive.