

Torque Converters for Forklifts

Torque Converters for Forklift - A torque converter in modern usage, is normally a fluid coupling which is used 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 could provide the equivalent of a reduction gear by being able to multiply torque whenever there is a considerable difference between input and output rotational speed.

The fluid coupling type is the most popular kind of torque converter utilized in auto transmissions. In the 1920's there were pendulum-based torque or likewise called Constantinesco converter. There are different mechanical designs utilized for continuously changeable transmissions that can multiply torque. Like for example, the Variomatic is one version that has expanding pulleys and a belt drive.

The 2 element drive fluid coupling is incapable of multiplying torque. Torque converters have an element known as a stator. This changes the drive's characteristics throughout times of high slippage and generates an increase in torque output.

There are at least three rotating parts in a torque converter: the turbine, that drives the load, the impeller, which is mechanically driven by the prime mover and the stator, which is between the turbine and the impeller so that it can change oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be prevented from rotating under whatever condition and this is where the word stator begins from. In fact, the stator is mounted on an overrunning clutch. This design prevents the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

In the three element design there have been changes which have been incorporated periodically. Where there is higher than normal torque manipulation is needed, adjustments to the modifications have proven to be worthy. Usually, these modifications have taken the form of multiple turbines and stators. Each and every set has been meant to generate differing amounts of torque multiplication. Various instances consist of the Dynaflo that makes use of a five element converter in order to generate the wide range of torque multiplication required to propel a heavy vehicle.

Though it is not strictly a part of classic torque converter design, different automotive converters consist of a lock-up clutch so as to reduce heat and to improve cruising power transmission effectiveness. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical that eliminates losses associated with fluid drive.