

Torque Converters for Forklift

Forklift Torque Converter - A torque converter is a fluid coupling that is used 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 mechanical clutch. This enables the load to be separated from the main power source. A torque converter can provide the equivalent of a reduction gear by being able to multiply torque whenever there is a significant difference between output and input rotational speed.

The fluid coupling kind is the most common type of torque converter used in automobile transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are various mechanical designs for continuously changeable transmissions that 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 could not multiply torque. A torque converter has an additional element that is the stator. This alters the drive's characteristics all through occasions of high slippage and generates an increase in torque output.

There are at least three rotating elements within a torque converter: the turbine, which drives the load, the impeller, which is mechanically driven by the prime mover and the stator, which is between the impeller and the turbine so that it could 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 any situation and this is where the word 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 allowing forward rotation.

In the three element design there have been changes which have been integrated at times. Where there is higher than normal torque manipulation is required, adjustments to the modifications have proven to be worthy. More often than not, these adjustments have taken the form of several turbines and stators. Every set has been intended to generate differing amounts of torque multiplication. Various examples consist of the Dynaflo that makes use of a five element converter so as to produce the wide range of torque multiplication required to propel a heavy vehicle.

Different auto converters comprise a lock-up clutch to be able to lessen heat and to be able to improve the cruising power and transmission efficiency, 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 that eliminates losses associated with fluid drive.