

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter is actually a fluid coupling which is used in order 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 same as a basic fluid coupling to take 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 most common kind of torque converter used in auto transmissions is the fluid coupling unit. During the 1920s there was likewise the Constantinesco or also known as pendulum-based torque converter. There are different mechanical designs used for continuously variable transmissions which can multiply torque. For instance, the Variomatic is one kind that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which cannot multiply torque. A torque converter has an extra element that is the stator. This alters the drive's characteristics all through times of high slippage and produces an increase in torque output.

There are at least three rotating elements 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 whatever situation and this is where the word stator originates from. In point of fact, 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 allowing forward rotation.

In the three element design there have been adjustments that have been incorporated sometimes. Where there is higher than normal torque manipulation is considered necessary, adjustments to the modifications have proven to be worthy. More often than not, these alterations have taken the form of many stators and turbines. Each and every set has been designed to produce differing amounts of torque multiplication. Several instances consist of the Dynaflo that utilizes a five element converter so as to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Even though it is not strictly a component of classic torque converter design, various automotive converters comprise a lock-up clutch so as to reduce heat and in order to enhance cruising power transmission efficiency. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical which eliminates losses connected with fluid drive.