

Torque Converters for Forklift

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is used to transfer rotating power from a prime mover, like for instance an electric motor or an internal combustion engine, to a rotating driven load. Like 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 when there is a significant difference between input and output rotational speed.

The fluid coupling unit is actually the most popular kind of torque converter utilized in auto transmissions. During the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are other mechanical designs utilized for always changeable transmissions that have the ability to multiply torque. Like for instance, the Variomatic is one version that has expanding pulleys and a belt drive.

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

There are a minimum of three rotating parts 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 turbine and the impeller so that it could change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under whatever condition and this is where the term stator originates from. Actually, 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 permitting forward rotation.

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

Even though it is not strictly a component of classic torque converter design, different automotive converters comprise a lock-up clutch to be able to reduce heat and to be able to enhance cruising power transmission effectiveness. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical that eliminates losses associated with fluid drive.