

Torque Converters for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is usually a fluid coupling that is used to be able to transfer rotating power from a prime mover, for example an electric motor or an internal combustion engine, 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 can 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 model is the most common type of torque converter used in auto transmissions. In the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are other mechanical designs for always changeable transmissions which can multiply torque. Like for instance, the Variomatic is one version which has a belt drive and expanding pulleys.

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an element known as a stator. This alters the drive's characteristics during times of high slippage and generates an increase in torque output.

Within a torque converter, there are at least of three rotating parts: the turbine, to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it can alter 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 whichever 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 stops the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

In the three element design there have been alterations that have been incorporated sometimes. Where there is higher than normal torque manipulation is considered necessary, changes to the modifications have proven to be worthy. Usually, these alterations have taken the form of several stators and turbines. Each and every set has been intended to produce differing amounts of torque multiplication. Various examples comprise the Dynaflo that makes use of a five element converter to be able to produce the wide range of torque multiplication required 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 to be able to reduce heat and in order 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 which eliminates losses connected with fluid drive.