

Torque Converters for Forklift

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is used in order to transfer rotating power from a prime mover, for instance 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 mechanical clutch. This enables the load to be separated from the main power source. A torque converter can offer the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between output and input rotational speed.

The fluid coupling model is actually the most popular type of torque converter utilized in automobile transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are other mechanical designs for continuously changeable transmissions which can multiply torque. Like for instance, the Variomatic is one type which has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which could not multiply torque. A torque converter has an extra component that is the stator. This alters the drive's characteristics throughout times of high slippage and generates an increase in torque output.

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

Modifications to the basic three element design have been incorporated at times. These alterations have proven worthy particularly in application where higher than normal torque multiplication is required. More often than not, these adjustments have taken the form of several stators and turbines. Each and every set has been intended to generate differing amounts of torque multiplication. Several examples comprise the Dynaflo which utilizes a five element converter to be able to generate the wide range of torque multiplication required to propel a heavy vehicle.

Different automobile converters consist of a lock-up clutch to reduce heat and in order to enhance the cruising power and transmission effectiveness, though it is not strictly component 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 related with fluid drive.