

Torque Converter for Forklifts

Torque Converter for Forklifts - A torque converter in modern usage, is normally a fluid coupling that is used in order to transfer rotating power from a prime mover, like for example an electric motor or an internal combustion engine, to a rotating driven load. Similar to 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 offer 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 unit is actually the most common kind of torque converter utilized in car transmissions. In the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are other mechanical designs used for continuously variable transmissions which have the ability to multiply torque. For example, the Variomatic is a version that has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive that is incapable of multiplying torque. A torque converter has an added element which is the stator. This changes the drive's characteristics all through occasions of high slippage and produces an increase in torque output.

Within a torque converter, there are at least of three rotating components: the turbine, to drive the load, the impeller that is driven mechanically driven by the prime mover and the stator. The stator is between the turbine and the impeller so that it can 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 term stator originates from. Actually, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

Modifications to the basic three element design have been integrated at times. These modifications have proven worthy particularly in application where higher than normal torque multiplication is considered necessary. Usually, these adjustments have taken the form of several turbines and stators. Each set has been designed to produce differing amounts of torque multiplication. Some instances comprise the Dynaflo which utilizes a five element converter to be able to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Different auto converters comprise a lock-up clutch in order to reduce heat and to enhance 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.