

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter is actually a fluid coupling that is utilized to transfer rotating power from a prime mover, which is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is like 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 when there is a significant difference between output and input rotational speed.

The most common type of torque converter utilized in automobile transmissions is the fluid coupling model. In the 1920s there was also the Constantinesco or pendulum-based torque converter. There are different mechanical designs utilized for continuously changeable transmissions that can multiply torque. For instance, the Variomatic is one kind which has expanding pulleys and a belt drive.

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

In a torque converter, there are at least of three rotating elements: the turbine, so as 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 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 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 stops the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

In the three element design there have been alterations which 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 modifications have taken the form of many stators and turbines. Every set has been designed to generate differing amounts of torque multiplication. Some examples consist of the Dynaflo which uses a five element converter in order to generate the wide range of torque multiplication required to propel a heavy vehicle.

Though it is not strictly a component of classic torque converter design, different automotive converters include a lock-up clutch in order to reduce heat and so as to improve cruising power transmission efficiency. 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.