

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is utilized in order to transfer rotating power from a prime mover, like for example an internal combustion engine or an electrical motor, to a rotating driven load. Like a basic fluid coupling, the torque converter takes the place of a mechanized clutch. This allows 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 most common type of torque converter utilized in car transmissions is the fluid coupling type. In the 1920s there was even the Constantinesco or pendulum-based torque converter. There are various mechanical designs for continuously changeable transmissions which have the ability to multiply torque. Like for example, the Variomatic is one type which has a belt drive and expanding pulleys.

The 2 element drive fluid coupling is incapable of multiplying torque. Torque converters have an element referred to as a 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 a minimum of three rotating parts: the turbine, to be able 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 change oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under whichever situation and this is where the term stator starts from. In truth, the stator is mounted on an overrunning clutch. This 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 periodically. Where there is higher than normal torque manipulation is needed, adjustments to the modifications have proven to be worthy. More often than not, these adjustments have taken the form of multiple turbines and stators. Every set has been designed to produce differing amounts of torque multiplication. Various examples include the Dynaflo that uses a five element converter to be able to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Although it is not strictly a component of classic torque converter design, different automotive converters consist of a lock-up clutch so as to reduce heat and in order 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 connected with fluid drive.