

Torque Converters for Forklifts

Torque Converter for Forklift - A torque converter in modern usage, is usually a fluid coupling which is used to transfer rotating power from a prime mover, like for instance an electric motor or an internal combustion engine, to a rotating driven load. Like 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 could provide the equivalent of a reduction gear by being able to multiply torque if there is a considerable difference between input and output rotational speed.

The most common type of torque converter used in car transmissions is the fluid coupling type. During the 1920s there was even the Constantinesco or also known as pendulum-based torque converter. There are different mechanical designs for continuously variable transmissions that have the ability to multiply torque. For example, the Variomatic is one type which has a belt drive and expanding pulleys.

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

Within a torque converter, there are at least of three rotating components: the turbine, so as to drive the load, the impeller that is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it could alter oil flow returning from the turbine to the impeller. Normally, 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 particular design stops the stator from counter rotating with respect to the prime mover while still allowing forward rotation.

In the three element design there have been adjustments that have been integrated at times. 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 many stators and turbines. Each and every set has been designed to generate differing amounts of torque multiplication. Various examples consist of the Dynaflo which uses a five element converter so as to produce the wide range of torque multiplication required to propel a heavy vehicle.

Though it is not strictly a part of classic torque converter design, various automotive converters include a lock-up clutch to reduce heat and to improve cruising power transmission effectiveness. 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.