

Torque Converter for Forklift

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

The fluid coupling unit is the most common type of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or Constantinesco converter. There are different mechanical designs utilized for continuously changeable transmissions that can multiply torque. For example, the Variomatic is one version which has expanding pulleys and a belt drive.

The 2 element drive fluid coupling could not multiply torque. Torque converters have an component referred to as a stator. This alters the drive's characteristics throughout times of high slippage and produces an increase in torque output.

In a torque converter, there are at least of three rotating components: the turbine, in order 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. Usually, the design of the torque converter dictates that the stator be stopped from rotating under whichever condition and this is where the term stator originates from. Actually, 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.

In the three element design there have been adjustments which have been incorporated at times. Where there is higher than normal torque manipulation is considered necessary, alterations to the modifications have proven to be worthy. Usually, these modifications have taken the form of multiple turbines and stators. Each set has been intended to produce differing amounts of torque multiplication. Several instances comprise the Dynaflo that uses a five element converter so as to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

While it is not strictly a component of classic torque converter design, different automotive converters include a lock-up clutch to reduce heat and in order 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 which eliminates losses associated with fluid drive.