

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly 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 mechanized clutch. This allows 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 substantial difference between output and input rotational speed.

The most common kind of torque converter utilized in car transmissions is the fluid coupling model. During the 1920s there was also the Constantinesco or pendulum-based torque converter. There are different mechanical designs for constantly changeable transmissions which could multiply torque. For example, the Variomatic is one version that has expanding pulleys and a belt drive.

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

In a torque converter, there are at least of three rotating elements: 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 alter 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 whatever situation and this is where the word stator begins from. In point of fact, 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 alterations that have been integrated periodically. Where there is higher than normal torque manipulation is needed, changes to the modifications have proven to be worthy. Usually, these alterations have taken the form of several turbines and stators. Each set has been intended to generate differing amounts of torque multiplication. Several instances include the Dynaflo which utilizes a five element converter in order to generate the wide range of torque multiplication required to propel a heavy vehicle.

Various automobile converters consist of a lock-up clutch so as to reduce heat and in order 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 which eliminates losses associated with fluid drive.