

Torque Converters for Forklift

Torque Converter for Forklifts - A torque converter in modern usage, is commonly a fluid coupling that is utilized to be able to transfer rotating power from a prime mover, for instance an electric motor or an internal combustion engine, to a rotating driven load. Similar to 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 when there is a considerable difference between output and input rotational speed.

The fluid coupling type is actually the most common kind of torque converter used in auto transmissions. During the 1920's there were pendulum-based torque or also called Constantinesco converter. There are other mechanical designs utilized for constantly changeable transmissions which could multiply torque. Like for instance, the Variomatic is one version that 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 that is the stator. This changes the drive's characteristics during occasions of high slippage and generates an increase in torque output.

Inside a torque converter, there are at least of three rotating components: 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 turbine and the impeller so that it can alter oil flow returning from the turbine to the impeller. Normally, the design of the torque converter dictates that the stator be stopped from rotating under whichever condition and this is where the term stator begins from. In point of fact, 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.

Changes to the basic three element design have been incorporated at times. These modifications have proven worthy particularly in application where higher than normal torque multiplication is considered necessary. Most commonly, these modifications have taken the form of multiple stators and turbines. Each set has been intended to produce differing amounts of torque multiplication. Various examples include the Dynaflo which utilizes a five element converter so as to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Various automobile converters consist of a lock-up clutch to reduce heat and to enhance the cruising power and transmission effectiveness, although it is not strictly component of the torque converter design. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical that eliminates losses associated with fluid drive.