

Forklift Torque Converters

Torque Converter for Forklifts - A torque converter is a fluid coupling which is utilized to transfer rotating power from a prime mover, which is an electric motor or an internal combustion engine, to a rotating driven load. The torque converter is similar to a basic fluid coupling to take the place of a mechanical 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 considerable difference between input and output rotational speed.

The fluid coupling model is the most common type of torque converter utilized in car transmissions. In the 1920's there were pendulum-based torque or Constantinesco converter. There are different mechanical designs for continuously variable transmissions that 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 which could not multiply torque. A torque converter has an extra component that is the stator. This changes the drive's characteristics throughout occasions of high slippage and produces an increase in torque output.

There are a minimum of three rotating elements within a torque converter: the turbine, that drives the load, the impeller, which is mechanically driven by the prime mover and the stator, that is between the impeller and the turbine so that it could change 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 any situation and this is where the word 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 enabling forward rotation.

Modifications to the basic three element design have been incorporated sometimes. These modifications have proven worthy particularly in application where higher than normal torque multiplication is required. Most commonly, these adjustments have taken the form of several stators and turbines. Each set has been meant to generate differing amounts of torque multiplication. Some instances include the Dynaflo that makes use of a five element converter in order to generate the wide range of torque multiplication required to propel a heavy vehicle.

Various car converters comprise a lock-up clutch to lessen heat and to be able to enhance the cruising power and transmission efficiency, though 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.