

Torque Converters for Forklift

Forklift Torque Converter - A torque converter is a fluid coupling which is utilized to transfer rotating power from a prime mover, that 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 mechanized clutch. This allows the load to be separated from the main power source. A torque converter can provide the equivalent of a reduction gear by being able to multiply torque when there is a significant difference between output and input 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 also called Constantinesco converter. There are other mechanical designs utilized for constantly variable transmissions that can multiply torque. For instance, the Variomatic is a version which has expanding pulleys and a belt drive.

The 2 element drive fluid coupling is incapable of multiplying torque. Torque converters have an element called a stator. This changes the drive's characteristics during occasions of high slippage and produces an increase in torque output.

There are at least three rotating elements in 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 can change oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under whichever situation and this is where the term stator originates from. In truth, 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.

Adjustments to the basic three element design have been incorporated at times. These modifications have proven worthy specially in application where higher than normal torque multiplication is required. Most commonly, these adjustments have taken the form of many turbines and stators. Every set has been meant to produce differing amounts of torque multiplication. Several instances consist of the Dynaflo that makes use of a five element converter in order to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Various car converters include a lock-up clutch to be able to lessen heat and to be able to enhance the cruising power and transmission efficiency, even 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 which eliminates losses connected with fluid drive.