

Torque Converter for Forklift

Forklift Torque Converter - A torque converter is actually a fluid coupling which is used in order 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 similar to 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 can 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 unit is actually the most popular type of torque converter utilized in auto transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are other mechanical designs for always changeable transmissions that have the ability to multiply torque. For instance, the Variomatic is one kind which has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive that cannot multiply torque. A torque converter has an extra element which is the stator. This alters the drive's characteristics during occasions of high slippage and generates an increase in torque output.

There are a minimum of three rotating components 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 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 whatever situation and this is where the word stator starts 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.

In the three element design there have been modifications which have been integrated sometimes. Where there is higher than normal torque manipulation is required, alterations to the modifications have proven to be worthy. Most commonly, these modifications have taken the form of multiple stators and turbines. Each and every set has been designed to generate differing amounts of torque multiplication. Some instances consist of the Dynaflo that makes use of a five element converter so as to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Different car converters include a lock-up clutch so as to reduce heat and in order to improve the cruising power and transmission effectiveness, though it is not strictly component of the torque converter design. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical which eliminates losses associated with fluid drive.