

Torque Converter for Forklifts

Torque Converter for Forklifts - A torque converter is actually a fluid coupling which is used 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 same as 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 offer the equivalent of a reduction gear by being able to multiply torque whenever there is a substantial difference between input and output rotational speed.

The fluid coupling model is actually the most popular kind of torque converter used in automobile transmissions. During the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are different mechanical designs used for constantly variable transmissions that have the ability to multiply torque. For example, the Variomatic is one kind which has a belt drive and expanding pulleys.

The 2 element drive fluid coupling could not multiply torque. Torque converters have an part called a stator. This changes the drive's characteristics during times of high slippage and generates an increase in torque output.

There are at least three rotating elements inside a torque converter: the turbine, which drives the load, the impeller, that is mechanically driven by the prime mover and the stator, which is between the impeller and the turbine so that it can change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under whatever condition and this is where the term stator originates 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 allowing forward rotation.

In the three element design there have been modifications that have been incorporated sometimes. Where there is higher than normal torque manipulation is considered necessary, alterations to the modifications have proven to be worthy. Usually, these modifications have taken the form of various turbines and stators. Each and every set has been meant to produce differing amounts of torque multiplication. Several instances consist of the Dynaflo which uses a five element converter in order to generate the wide range of torque multiplication required to propel a heavy vehicle.

Various auto converters comprise a lock-up clutch to be able to reduce heat and in order to improve the cruising power and transmission effectiveness, even though it is not strictly part 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 connected with fluid drive.