

Torque Converters for Forklifts

Forklift Torque Converter - A torque converter is actually a fluid coupling that 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 can offer the equivalent of a reduction gear by being able to multiply torque if there is a significant difference between output and input rotational speed.

The fluid coupling unit is actually the most common kind of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are other mechanical designs utilized for always changeable transmissions that have the ability to multiply torque. For example, the Variomatic is one type that has a belt drive and expanding pulleys.

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

Inside a torque converter, there are at least of three rotating elements: the turbine, in order 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 could 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 whatever situation and this is where the word stator begins from. In reality, the stator is mounted on an overrunning clutch. This 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 periodically. These modifications have proven worthy specially in application where higher than normal torque multiplication is needed. Usually, these alterations have taken the form of multiple stators and turbines. Each and every set has been meant to produce differing amounts of torque multiplication. Various examples comprise the Dynaflo that utilizes a five element converter so as to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Although it is not strictly a component of classic torque converter design, different automotive converters consist of a lock-up clutch to be able to reduce heat and to be able to enhance cruising power transmission efficiency. 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.