

Torque Converters for Forklifts

Torque Converters for Forklifts - A torque converter is a fluid coupling that is used so as 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 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 when there is a substantial difference between input and output rotational speed.

The most common kind of torque converter utilized in auto transmissions is the fluid coupling kind. In the 1920s there was also the Constantinesco or also known as pendulum-based torque converter. There are different mechanical designs utilized for always changeable transmissions that can multiply torque. For instance, the Variomatic is a type which has expanding pulleys and a belt drive.

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

There are a minimum of three rotating elements in a torque converter: the turbine, which drives the load, the impeller, which is mechanically driven by the prime mover and the stator, that is between the turbine and the impeller so that it could alter 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 whatever condition and this is where the word stator begins from. In truth, the stator is mounted on an overrunning clutch. This particular 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 adjustments which have been incorporated sometimes. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. More often than not, these modifications have taken the form of several turbines and stators. Each and every set has been designed to produce differing amounts of torque multiplication. Various examples consist of the Dynaflo that utilizes a five element converter so as to generate the wide range of torque multiplication needed to propel a heavy vehicle.

While it is not strictly a component of classic torque converter design, various automotive converters include a lock-up clutch so as to lessen heat and to enhance cruising power transmission efficiency. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical that eliminates losses related with fluid drive.