

Torque Converter for Forklifts

Torque Converters for Forklifts - A torque converter in modern usage, is normally a fluid coupling that is used so as to transfer rotating power from a prime mover, for instance an internal combustion engine or an electrical motor, to a rotating driven load. Same as a basic fluid coupling, the torque converter takes the place of a mechanical 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 whenever there is a substantial difference between input and output rotational speed.

The most common type of torque converter used in car transmissions is the fluid coupling kind. During the 1920s there was even the Constantinesco or likewise known as pendulum-based torque converter. There are different mechanical designs for continuously changeable transmissions which can multiply torque. For example, the Variomatic is one kind that 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 that is the stator. This alters the drive's characteristics during times of high slippage and produces an increase in torque output.

Inside a torque converter, there are at least of three rotating elements: the turbine, 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 can alter oil flow returning from the turbine to the impeller. Normally, 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. Actually, 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.

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

Different automobile converters consist of a lock-up clutch to lessen heat and to enhance the cruising power and transmission effectiveness, 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.