

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling that is used 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 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 considerable difference between output and input rotational speed.

The most common type of torque converter utilized in automobile transmissions is the fluid coupling kind. During the 1920s there was also the Constantinesco or also known as pendulum-based torque converter. There are various mechanical designs utilized for always variable transmissions that can multiply torque. Like for instance, the Variomatic is a version that has a belt drive and expanding pulleys.

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an part referred to as a stator. This changes the drive's characteristics throughout occasions of high slippage and generates an increase in torque output.

There are a minimum of 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 whichever situation and this is where the term stator begins 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 enabling forward rotation.

In the three element design there have been changes that have been incorporated sometimes. Where there is higher than normal torque manipulation is required, adjustments to the modifications have proven to be worthy. Usually, these modifications have taken the form of many stators and turbines. Each set has been intended to generate differing amounts of torque multiplication. Several examples comprise the Dynaflo which utilizes a five element converter so as to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Although it is not strictly a part of classic torque converter design, various automotive converters consist of a lock-up clutch in order 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 related with fluid drive.