

Torque Converters for Forklifts

Torque Converter for Forklifts - A torque converter in modern usage, is usually a fluid coupling that is used to be able to transfer rotating power from a prime mover, like for instance an electric motor or an internal combustion engine, to a rotating driven load. Similar to 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 could provide the equivalent of a reduction gear by being able to multiply torque if there is a considerable difference between input and output rotational speed.

The most common kind of torque converter used in auto transmissions is the fluid coupling unit. During the 1920s there was even the Constantinesco or otherwise known as pendulum-based torque converter. There are other mechanical designs used for always variable transmissions which can multiply torque. For example, the Variomatic is a version which has expanding pulleys and a belt drive.

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

There are at least three rotating parts in a torque converter: the turbine, that drives the load, the impeller, which is mechanically driven by the prime mover and the stator, which is between the impeller and the turbine so that it could change 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 starts from. In point of fact, 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 enabling forward rotation.

In the three element design there have been changes that have been integrated at times. Where there is higher than normal torque manipulation is considered necessary, changes to the modifications have proven to be worthy. Usually, these adjustments have taken the form of several stators and turbines. Every set has been intended to generate differing amounts of torque multiplication. Several instances include the Dynaflo which uses a five element converter to be able to generate the wide range of torque multiplication required to propel a heavy vehicle.

Different car converters include a lock-up clutch so as to lessen heat and to enhance the cruising power and transmission efficiency, although 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.