

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling that is utilized in order to transfer rotating power from a prime mover, for example an internal combustion engine or an electrical motor, to a rotating driven load. Like a basic fluid coupling, the torque converter takes the place of a mechanical clutch. This enables 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 if there is a significant difference between output and input rotational speed.

The most popular type of torque converter used in car transmissions is the fluid coupling unit. During the 1920s there was likewise the Constantinesco or likewise known as pendulum-based torque converter. There are different mechanical designs utilized for constantly variable transmissions that have the ability to multiply torque. Like for instance, the Variomatic is a version that 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 added component that is the stator. This alters the drive's characteristics through times of high slippage and generates an increase in torque output.

There are at least three rotating components in a torque converter: the turbine, which 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 prevented 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 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 adjustments that have been incorporated periodically. Where there is higher than normal torque manipulation is considered necessary, adjustments to the modifications have proven to be worthy. Most commonly, these alterations have taken the form of several stators and turbines. Each and every set has been intended to generate differing amounts of torque multiplication. Various examples comprise the Dynaflo which uses a five element converter in order to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Although it is not strictly a component of classic torque converter design, various automotive converters consist of a lock-up clutch to be able to lessen heat and so as 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 that eliminates losses connected with fluid drive.