

Torque Converter for Forklifts

Forklift Torque Converter - A torque converter is a fluid coupling that is used in order to transfer rotating power from a prime mover, which is an electric motor or an internal combustion engine, to a rotating driven load. The torque converter is same as 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 could provide the equivalent of a reduction gear by being able to multiply torque whenever there is a significant difference between input and output rotational speed.

The most common kind of torque converter used in car transmissions is the fluid coupling kind. In the 1920s there was even the Constantinesco or also known as pendulum-based torque converter. There are other mechanical designs for continuously changeable transmissions which have the ability to multiply torque. Like for example, the Variomatic is one type which has expanding pulleys and a belt drive.

The 2 element drive fluid coupling could not multiply torque. Torque converters have an component known as a stator. This alters the drive's characteristics throughout occasions of high slippage and generates an increase in torque output.

There are at least three rotating components within 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 could alter 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 any 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 permitting forward rotation.

In the three element design there have been modifications which have been incorporated at times. 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 stators and turbines. Each set has been meant to generate differing amounts of torque multiplication. Some instances comprise the Dynaflo that makes use of a five element converter in order to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Even though it is not strictly a component of classic torque converter design, various automotive converters comprise a lock-up clutch to lessen heat and in order to enhance cruising power transmission effectiveness. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical which eliminates losses associated with fluid drive.