

Torque Converter for Forklift

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling that is utilized to be able to transfer rotating power from a prime mover, like for example an electric motor or an internal combustion engine, to a rotating driven load. Same as 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 input and output rotational speed.

The most common kind of torque converter used in car transmissions is the fluid coupling unit. In the 1920s there was also the Constantinesco or pendulum-based torque converter. There are different mechanical designs used for constantly variable transmissions which can multiply torque. For instance, the Variomatic is a version that has expanding pulleys and a belt drive.

A fluid coupling is a 2 element drive which could not multiply torque. A torque converter has an additional component which is the stator. This alters the drive's characteristics during occasions of high slippage and generates an increase in torque output.

There are a minimum of three rotating components inside a torque converter: the turbine, that drives the load, the impeller, that is mechanically driven by the prime mover and the stator, that is between the impeller and the turbine so that it can 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 any situation and this is where the word stator begins from. In truth, 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 which have been incorporated periodically. Where there is higher than normal torque manipulation is considered necessary, alterations to the modifications have proven to be worthy. Usually, these alterations have taken the form of multiple stators and turbines. Each and every set has been designed to produce differing amounts of torque multiplication. Some examples comprise the Dynaflo that utilizes a five element converter so as to generate the wide range of torque multiplication required to propel a heavy vehicle.

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