

Torque Converters for Forklift

Forklift Torque Converter - A torque converter is actually a fluid coupling that is utilized in order to transfer rotating power from a prime mover, that is an internal combustion engine or as electrical motor, to a rotating driven load. The torque converter is similar to a basic fluid coupling to take 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 fluid coupling unit is the most popular type of torque converter utilized in car transmissions. During the 1920's there were pendulum-based torque or likewise called Constantinesco converter. There are various mechanical designs used for always changeable transmissions which can multiply torque. For example, the Variomatic is one kind which has expanding pulleys and a belt drive.

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

Within a torque converter, there are at least of three rotating components: the turbine, in order to drive the load, the impeller that is driven mechanically driven by the prime mover and the stator. The stator 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 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 permitting forward rotation.

In the three element design there have been adjustments that have been integrated periodically. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. Most commonly, these adjustments have taken the form of multiple turbines and stators. Every set has been intended to produce differing amounts of torque multiplication. Several instances include the Dynaflo which uses a five element converter in order to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Various auto converters include a lock-up clutch so as to lessen heat and in order to enhance the cruising power and transmission effectiveness, though it is not strictly part of the torque converter design. 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.