Torque Converters for Forklift

Forklift Torque Converter - A torque converter is actually a fluid coupling that is utilized so as 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 mechanical clutch. This enables 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 significant difference between input and output rotational speed.

The fluid coupling type is the most popular type of torque converter utilized in auto transmissions. During the 1920's there were pendulum-based torque or otherwise called Constantinesco converter. There are various mechanical designs utilized for always variable transmissions which have the ability to multiply torque. Like for instance, the Variomatic is one kind which 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 which is the stator. This changes the drive's characteristics through times of high slippage and produces an increase in torque output.

There are a at least three rotating parts 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 turbine and the impeller so that it can change oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be stopped from rotating under whichever condition and this is where the term stator begins from. Actually, 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.

Modifications to the basic three element design have been incorporated sometimes. These modifications have proven worthy specially in application where higher than normal torque multiplication is required. Usually, these modifications have taken the form of multiple stators and turbines. Every set has been meant to generate differing amounts of torque multiplication. Various examples consist of the Dynaflow which makes use of a five element converter so as to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

While it is not strictly a component of classic torque converter design, different automotive converters include a lock-up clutch so as to lessen heat and in order to improve cruising power transmission efficiency. 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.