Torque Converter for Forklift

Forklift Torque Converter - A torque converter is a fluid coupling that is used to transfer rotating power from a prime mover, which 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 could offer the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between output and input rotational speed.

The fluid coupling model is actually the most popular kind of torque converter used in auto transmissions. In the 1920's there were pendulum-based torque or also called Constantinesco converter. There are different mechanical designs used for continuously changeable transmissions that could multiply torque. Like for instance, the Variomatic is a type which has a belt drive and expanding pulleys.

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

There are a at least three rotating components within 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. Traditionally, the design of the torque converter dictates that the stator be prevented from rotating under whichever condition and this is where the term stator starts from. In point of fact, 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 permitting forward rotation.

In the three element design there have been modifications which have been integrated at times. Where there is higher than normal torque manipulation is required, alterations to the modifications have proven to be worthy. More often than not, these alterations have taken the form of various stators and turbines. Each set has been intended to produce differing amounts of torque multiplication. Several examples include the Dynaflow that makes use of a five element converter to be able to produce 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, different automotive converters consist of a lock-up clutch in order to reduce heat and to be able 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 that eliminates losses associated with fluid drive.