Torque Converter for Forklifts

Forklift Torque Converter - A torque converter is a fluid coupling that is used to be able to transfer rotating power from a prime mover, that 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 allows 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 whenever there is a significant difference between output and input rotational speed.

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

The 2 element drive fluid coupling is incapable of multiplying torque. Torque converters have an part known as a stator. This alters the drive's characteristics all through times of high slippage and generates an increase in torque output.

There are a at least three rotating components inside 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 turbine and the impeller so that it can alter oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under any condition and this is where the term stator originates from. In 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 enabling 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 considered necessary, adjustments to the modifications have proven to be worthy. Usually, these modifications have taken the form of many turbines and stators. Each set has been designed to produce differing amounts of torque multiplication. Various examples consist of the Dynaflow that makes use of a five element converter so as to produce 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 to be able 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 related with fluid drive.