Torque Converter for Forklifts

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 allows the load to be separated from the main power source. A torque converter can offer 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 unit is the most popular kind of torque converter utilized in car transmissions. In the 1920's there were pendulum-based torque or Constantinesco converter. There are various mechanical designs used for constantly variable transmissions that have the ability to multiply torque. For instance, the Variomatic is one kind that has a belt drive and expanding pulleys.

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

In a torque converter, there are a minimum of three rotating elements: the turbine, so as to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the turbine and the impeller so that it can alter oil flow returning from the turbine to the impeller. Usually, the design of the torque converter dictates that the stator be prevented from rotating under any condition and this is where the word stator begins 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 changes which have been incorporated sometimes. Where there is higher than normal torque manipulation is required, adjustments to the modifications have proven to be worthy. Most commonly, these adjustments have taken the form of many turbines and stators. Each and every set has been intended to generate differing amounts of torque multiplication. Various instances consist of the Dynaflow which utilizes a five element converter in order to generate the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Various auto converters include a lock-up clutch to reduce heat and so as to improve the cruising power and transmission efficiency, though it is not strictly part of the torque converter design. The application of the clutch locks the turbine to the impeller. This causes all power transmission to be mechanical that eliminates losses associated with fluid drive.