

Torque Converters for Forklifts

Forklift Torque Converter - A torque converter in modern usage, is commonly a fluid coupling which is used to transfer rotating power from a prime mover, for instance an electric motor or an internal combustion engine, to a rotating driven load. Like a basic fluid coupling, the torque converter takes the place of a mechanized 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 considerable difference between input and output rotational speed.

The fluid coupling unit is actually the most common type of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or Constantinesco converter. There are other mechanical designs used for continuously changeable transmissions that can multiply torque. Like for example, the Variomatic is a type that has expanding pulleys and a belt drive.

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.

Inside a torque converter, there are at least of three rotating parts: the turbine, to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it could alter oil flow returning from the turbine to the impeller. Normally, the design of the torque converter dictates that the stator be prevented from rotating under whichever condition and this is where the word stator starts from. In fact, 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 alterations that have been integrated at times. Where there is higher than normal torque manipulation is considered necessary, alterations to the modifications have proven to be worthy. Most commonly, these modifications have taken the form of several stators and turbines. Each and every set has been intended to generate differing amounts of torque multiplication. Several instances include the Dynaflo that uses a five element converter in order to generate the wide range of torque multiplication needed to propel a heavy vehicle.

Though it is not strictly a component of classic torque converter design, various automotive converters consist of a lock-up clutch so as to reduce heat and so as to enhance 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 related with fluid drive.