

Torque Converter for Forklifts

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 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 mechanized 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 substantial difference between output and input rotational speed.

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

The 2 element drive fluid coupling cannot multiply torque. Torque converters have an element known as a stator. This alters the drive's characteristics during occasions of high slippage and produces an increase in torque output.

Inside a torque converter, there are at least of three rotating components: the turbine, to drive the load, the impeller that is driven mechanically driven by the prime mover and the stator. The stator is between the impeller and the turbine so that it can change 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 any condition and this is where the word stator begins from. Actually, the stator is mounted on an overrunning clutch. This particular 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 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. Usually, these modifications have taken the form of many stators and turbines. Each and every set has been designed to produce differing amounts of torque multiplication. Several instances comprise the Dynaflow which uses a five element converter in order to generate 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, different automotive converters comprise a lock-up clutch to lessen 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 which eliminates losses related with fluid drive.