

Torque Converters for Forklifts

Forklift Torque Converter - A torque converter is a fluid coupling that is utilized so as to transfer rotating power from a prime mover, which 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 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 unit is actually the most common kind of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or likewise called Constantinesco converter. There are various mechanical designs for always changeable transmissions which could multiply torque. Like for example, the Variomatic is one kind which has a belt drive and expanding pulleys.

The 2 element drive fluid coupling is incapable of multiplying torque. Torque converters have an component called a stator. This alters the drive's characteristics through occasions of high slippage and produces an increase in torque output.

There are a minimum of three rotating parts within a torque converter: the turbine, which 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 could 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 starts from. In truth, 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 allowing forward rotation.

Changes to the basic three element design have been integrated at times. These modifications have proven worthy specially in application where higher than normal torque multiplication is considered necessary. More often than not, these modifications have taken the form of multiple turbines and stators. Each set has been designed to produce differing amounts of torque multiplication. Some instances consist of the Dynaflo that utilizes a five element converter in order to produce the wide range of torque multiplication required to propel a heavy vehicle.

Various automobile converters comprise a lock-up clutch to reduce heat and in order to improve the cruising power and transmission efficiency, even if it is not strictly part of the torque converter design. The application of the clutch locks the impeller to the turbine. This causes all power transmission to be mechanical that eliminates losses connected with fluid drive.