

Forklift Torque Converters

Forklift Torque Converters - A torque converter is actually a fluid coupling that is utilized 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 similar to a basic fluid coupling to take the place of a mechanized clutch. This allows the load to be separated from the main power source. A torque converter could offer the equivalent of a reduction gear by being able to multiply torque when there is a considerable difference between output and input rotational speed.

The most popular kind of torque converter used in auto transmissions is the fluid coupling kind. In the 1920s there was even the Constantinesco or otherwise known as pendulum-based torque converter. There are other mechanical designs for constantly variable transmissions which could multiply torque. For instance, the Variomatic is one type that has expanding pulleys and a belt drive.

A fluid coupling is a 2 element drive that cannot multiply torque. A torque converter has an added part that is the stator. This changes the drive's characteristics throughout occasions of high slippage and generates an increase in torque output.

Within a torque converter, there are at least of three rotating elements: 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 stopped from rotating under any condition and this is where the word stator starts from. In reality, the stator is mounted on an overrunning clutch. This design prevents the stator from counter rotating with respect to the prime mover while still permitting forward rotation.

Adjustments to the basic three element design have been incorporated sometimes. These changes have proven worthy specially in application where higher than normal torque multiplication is considered necessary. More often than not, these alterations have taken the form of various turbines and stators. Every set has been designed to produce differing amounts of torque multiplication. Some instances include the Dynaflo which utilizes a five element converter so as to produce the wide range of torque multiplication needed to propel a heavy vehicle.

Even though it is not strictly a component of classic torque converter design, different automotive converters include a lock-up clutch in order to lessen heat and in order 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 which eliminates losses associated with fluid drive.