Forklift Torque Converter

Forklift Torque Converter - A torque converter is a fluid coupling which 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 mechanical clutch. This allows 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 when there is a considerable difference between input and output rotational speed.

The fluid coupling type is actually the most popular kind of torque converter utilized in automobile transmissions. In the 1920's there were pendulum-based torque or Constantinesco converter. There are various mechanical designs utilized for continuously changeable transmissions which have the ability to multiply torque. For instance, the Variomatic is a type which has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which is incapable of multiplying 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.

There are a at least three rotating parts in a torque converter: the turbine, that drives the load, the impeller, which is mechanically driven by the prime mover and the stator, that 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 stopped from rotating under whichever condition and this is where the term stator originates 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 enabling forward rotation.

Modifications to the basic three element design have been incorporated at times. These changes have proven worthy especially in application where higher than normal torque multiplication is considered necessary. Usually, these modifications have taken the form of many turbines and stators. Each set has been intended to produce differing amounts of torque multiplication. Some instances comprise the Dynaflow which utilizes a five element converter so as to produce the wide range of torque multiplication considered necessary to propel a heavy vehicle.

Different automobile converters include a lock-up clutch in order to lessen heat and so as to enhance the cruising power and transmission effectiveness, even though it is not strictly component 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 associated with fluid drive.