Forklift Torque Converter

Torque Converters for Forklifts - A torque converter is actually a fluid coupling which is utilized in order 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 like 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 can provide the equivalent of a reduction gear by being able to multiply torque when there is a substantial difference between output and input rotational speed.

The fluid coupling model is the most popular kind of torque converter used in car transmissions. During the 1920's there were pendulum-based torque or Constantinesco converter. There are different mechanical designs used for constantly changeable transmissions that have the ability to multiply torque. For example, the Variomatic is a type that has expanding pulleys and a belt drive.

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

There are a minimum of three rotating elements inside 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 impeller and the turbine so that it can alter oil flow returning from the turbine to the impeller. Traditionally, 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 point of 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 periodically. Where there is higher than normal torque manipulation is needed, modifications to the modifications have proven to be worthy. Usually, these alterations have taken the form of many stators and turbines. Each set has been meant to generate differing amounts of torque multiplication. Some instances include the Dynaflow which makes use of a five element converter to be able to produce the wide range of torque multiplication needed 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 so as to reduce heat and in order to improve cruising power transmission effectiveness. 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.