Torque Converter for Forklifts

Torque Converter for Forklift - A torque converter is actually a fluid coupling that is utilized so as 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 enables the load to be separated from the main power source. A torque converter can offer the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between input and output rotational speed.

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

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

There are a minimum of three rotating components within 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 change oil flow returning from the turbine to the impeller. Traditionally, the design of the torque converter dictates that the stator be stopped from rotating under any situation and this is where the term stator starts from. Actually, the stator is mounted on an overrunning clutch. This design stops the stator from counter rotating with respect to the prime mover while still allowing forward rotation.

In the three element design there have been alterations that have been incorporated at times. Where there is higher than normal torque manipulation is needed, adjustments to the modifications have proven to be worthy. Most commonly, these modifications have taken the form of many turbines and stators. Each and every set has been designed to produce differing amounts of torque multiplication. Several examples comprise the Dynaflow which uses a five element converter to be able to produce the wide range of torque multiplication required to propel a heavy vehicle.

While it is not strictly a part of classic torque converter design, different automotive converters consist of a lock-up clutch to be able to lessen heat and to improve 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.