

Torque Converters for Forklifts

Torque Converter for Forklift - A torque converter in modern usage, is commonly a fluid coupling which is used to transfer rotating power from a prime mover, for instance an internal combustion engine or an electrical motor, to a rotating driven load. Similar to a basic fluid coupling, the torque converter takes the place of a mechanical clutch. This enables 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 considerable difference between output and input 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 likewise called Constantinesco converter. There are different mechanical designs used for always 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 which could not multiply torque. A torque converter has an additional part that is the stator. This changes the drive's characteristics throughout occasions of high slippage and generates an increase in torque output.

In a torque converter, there are at least of three rotating components: the turbine, to be able to drive the load, the impeller which is driven mechanically driven by the prime mover and the stator. The stator 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 whatever condition and this is where the term stator begins from. In truth, the stator is mounted on an overrunning clutch. This design prevents the stator from counter rotating with respect to the prime mover while still enabling forward rotation.

In the three element design there have been changes that have been integrated periodically. Where there is higher than normal torque manipulation is needed, changes to the modifications have proven to be worthy. Usually, these alterations have taken the form of various turbines and stators. Every set has been meant to generate differing amounts of torque multiplication. Some instances consist of the Dynaflo that utilizes a five element converter so as to produce the wide range of torque multiplication required to propel a heavy vehicle.

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