Forklift Torque Converter

Forklift Torque Converter - A torque converter is actually a fluid coupling that is used in order to transfer rotating power from a prime mover, which 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 offer the equivalent of a reduction gear by being able to multiply torque if there is a substantial difference between output and input rotational speed.

The most common type of torque converter used in car transmissions is the fluid coupling kind. During the 1920s there was also the Constantinesco or otherwise known as pendulum-based torque converter. There are various mechanical designs for constantly variable transmissions that could multiply torque. Like for example, the Variomatic is one kind which has a belt drive and expanding pulleys.

A fluid coupling is a 2 element drive which cannot multiply torque. A torque converter has an added part which is the stator. This alters the drive's characteristics during times of high slippage and produces an increase in torque output.

Within a torque converter, there are a minimum of three rotating components: 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 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 any condition and this is where the word stator begins 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.

In the three element design there have been changes which have been incorporated at times. Where there is higher than normal torque manipulation is required, modifications to the modifications have proven to be worthy. More often than not, these modifications have taken the form of many stators and turbines. Each and every set has been designed to produce differing amounts of torque multiplication. Some examples comprise the Dynaflow which utilizes a five element converter in order to generate 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 efficiency. 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.