Trailer Axles

Trailer axles are central shafts that rotate wheels or gears in trailers. Axles are normally in fixed positions with bearings in holes within the wheel. This allows the wheels to rotate about the axle. It is important to consider trailers as vehicles of and in themselves. Axles in a trailer play an important role in determination of the load potential of the trailer as well as its handling characteristics. In order to determine the best suited axle for any given trailer, the gross vehicle weight should be calculated. This is done by adding weight of the cargo to the weight of the empty trailer. Throughout this article, the three main axle types as well as the considerations while choosing an axle that is best suited for any trailer will be discussed.

Torsion axles

These are axles that are compact and have a flexible elastomer in their design. This enables them to absorb bumps. These axles comprise of three main components namely the elastomer, the spindle arm and the support bushing. The elastomer component of these axles is also known as rubber cartridge. These axles are single-sided units with independent suspension mechanisms. They are best suited for trailers that are to carry light loads. The elastomer has a limited life span and it eventually hardens and cracks. It means that it has to be replaced after some time.

Leaf Spring

Leaf spring axles turn out to be a bit economical as compared to the coils and components in torsion axles. This is basically because of leaf spring axles have a simpler design. However, the manufactures of these axles claim that they have a performance that is similar to that of torsion axles and they are also comparatively durable. These axles were the ones in use in majority of American cars up to the year 1985. They are called leaf spring axles because of the layers of metal connected to the axle that resemble leaves

Tandem Drive

Tandem drive trailer axles consist of two or more axles that are closely built together. This makes these axles able to take up more loads as compared to single axles. The axles are heavy-duty, have higher horsepower and more torque potential as compared to torsion axles. These axles are mostly found in semi-trailers. According to many drivers, the tandem drive axles improve safety in case of a tire blowout while driving.

There are a number of things that should be considered while choosing a trailer axle. Those include the number of axles, the gross vehicle weight, braking, types of spindles to be required, bolt pattern to be used, length of the axle and the hanger Kit to be used.

The gross vehicle weight ought to be calculated so as to get the best suited axle for any application. After getting the gross vehicle weight, the next thing that should be put under consideration is the number of axles. This entails selecting the capacity and number of axles. For one to use the tandem axles in a trailer with a gross vehicle weight of 10,000 lb, the required capacity per axle will be 6,000 lb. the braking of trailer axles should be at per with the state requirements. Some states require that at least one of the axles have brakes while others require that all axles have brakes. The next consideration should be on the type of braking system to be used. They range from hydraulic free-backing, electric, duo-serve, hydraulic single-serve, to hydraulic air or disk cam brakes.

While selecting trailer axles, road safety should be a priority. The rules regarding trailer axles in the state of residence should also be put into consideration. The above information is helpful to anyone having a difficult time selecting the best type of axle for his or her trailer.