Forklift Pinions

Pinions for Forklift - The main pivot, called the king pin, is seen in the steering machine of a forklift. The very first design was a steel pin wherein the movable steerable wheel was attached to the suspension. Because it could freely turn on a single axis, it limited the levels of freedom of motion of the rest of the front suspension. During the 1950s, the time its bearings were substituted by ball joints, more detailed suspension designs became available to designers. King pin suspensions are still utilized on various heavy trucks as they can lift a lot heavier load.

The newer designs of the king pin no longer restrict to moving like a pin. Today, the term might not even refer to a real pin but the axis in which the steered wheels turn.

The KPI or likewise known as kingpin inclination can also be known as the steering axis inclination or SAI. These terms describe the kingpin if it is places at an angle relative to the true vertical line as looked at from the back or front of the lift truck. This has a major impact on the steering, making it tend to go back to the straight ahead or center position. The centre location is where the wheel is at its highest position relative to the suspended body of the forklift. The motor vehicles weight has the tendency to turn the king pin to this position.

One more effect of the kingpin inclination is to arrange the scrub radius of the steered wheel. The scrub radius is the offset among the tire's contact point with the road surface and the projected axis of the steering down through the king pin. If these items coincide, the scrub radius is defined as zero. Even if a zero scrub radius is possible without an inclined king pin, it requires a deeply dished wheel in order to maintain that the king pin is at the centerline of the wheel. It is much more sensible to tilt the king pin and utilize a less dished wheel. This also offers the self-centering effect.