

Pinions for Forklift

Forklift Pinion - The king pin, usually constructed of metal, is the major axis in the steering mechanism of a vehicle. The initial design was in fact a steel pin wherein the movable steerable wheel was connected to the suspension. Able to freely rotate on a single axis, it restricted the degrees of freedom of movement of the rest of the front suspension. During the 1950s, when its bearings were replaced by ball joints, more comprehensive suspension designs became available to designers. King pin suspensions are nevertheless used on some heavy trucks for the reason that they have the advantage of being capable of lifting much heavier load.

The new designs of the king pin no longer limit to moving similar to a pin. These days, the term may not even refer to an actual pin but the axis wherein the steered wheels turn.

The KPI or also known as kingpin inclination could likewise be called the SAI or steering axis inclination. These terms describe the kingpin if it is placed at an angle relative to the true vertical line as viewed from the front or back of the lift truck. This has a major effect on the steering, making it tend to return to the centre or straight ahead position. The centre position is where the wheel is at its highest point relative to the suspended body of the lift truck. The vehicles' weight tends 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. Though a zero scrub radius is possible without an inclined king pin, it requires a deeply dished wheel so as to maintain that the king pin is at the centerline of the wheel. It is a lot more sensible to incline the king pin and use a less dished wheel. This likewise provides the self-centering effect.