

Pinion for Forklifts

Forklift Pinion - The king pin, typically constructed of metal, is the major axis in the steering mechanism of a motor vehicle. The original design was in fact a steel pin on which the movable steerable wheel was connected to the suspension. Able to freely revolve on a single axis, it restricted the degrees of freedom of motion of the rest of the front suspension. During the 1950s, the time its bearings were substituted by ball joints, more in depth suspension designs became available to designers. King pin suspensions are still featured on various heavy trucks as they have the advantage of being capable of lifting much heavier cargo.

Newer designs no longer restrict this apparatus to moving like a pin and nowadays, the term may not be utilized for an actual pin but for the axis around which the steered wheels turn.

The KPI or kingpin inclination may also be called the SAI or steering axis inclination. These terms define 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 impact on the steering, making it likely to go back to the centre or straight ahead position. The centre location is where the wheel is at its peak position relative to the suspended body of the lift truck. The vehicles' weight tends to turn the king pin to this position.

The kingpin inclination likewise sets the scrub radius of the steered wheel, which is the offset among projected axis of the tire's contact point with the road surface and the steering down through the king pin. If these items coincide, the scrub radius is defined as zero. Although 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 practical to incline the king pin and use a less dished wheel. This likewise supplies the self-centering effect.