Forklift Pinions

Pinion for Forklifts - The king pin, typically made out of metal, is the major axis in the steering device of a vehicle. The first design was actually a steel pin wherein the movable steerable wheel was connected to the suspension. Able to freely rotate on a single axis, it limited the levels of freedom of movement of the rest of the front suspension. In the 1950s, when its bearings were substituted by ball joints, more detailed suspension designs became accessible to designers. King pin suspensions are nevertheless featured on various heavy trucks because they could carry much heavier weights.

The newer designs of the king pin no longer restrict to moving like a pin. These days, the term may not even refer to an actual pin but the axis in which the steered wheels turn.

The KPI or also known as kingpin inclination could also be known as the steering axis inclination or SAI. These terms define the kingpin if it is positioned at an angle relative to the true vertical line as viewed from the back or front of the lift truck. This has a vital effect on the steering, making it likely to return to the centre or straight ahead position. The centre location is where the wheel is at its highest point relative to the suspended body of the lift truck. The motor vehicles weight has the tendency to turn the king pin to this position.

One more effect of the kingpin inclination is to set 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 points coincide, the scrub radius is defined as zero. Even though a zero scrub radius is likely 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 a lot more practical to tilt the king pin and make use of a less dished wheel. This likewise provides the self-centering effect.