

Car Parts

History and provenance

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A rolling-motion question in riddle form

The answer is the standard kinematics of a rigid wheel rolling without slipping. OpenStax's *University Physics Volume 1*, section 11.1, develops the combination of translation and rotation and discusses the wheel's instantaneous contact point [1].

What can be attributed

This textbook is a reference for the physical principle, not a claim of authorship of the “which car part is stationary?” riddle. I did not establish an original author or early printed source for that wording.

The car story can obscure the reference frame. A wheel's top and bottom have different velocities relative to the ground, while their velocities relative to the axle have the same magnitude and opposite directions. The statement now names the ground frame and excludes slipping, which are the assumptions needed for a determinate numerical answer.

Real tire deformation is outside this elementary rigid-wheel model.

Sources

[1] OpenStax, University Physics Volume 1, section 11.1: Rolling Motion.

<https://openstax.org/books/university-physics-volume-1/pages/11-1-rolling-motion>

Sources checked September 7, 2026. A documented appearance is not necessarily the earliest appearance.