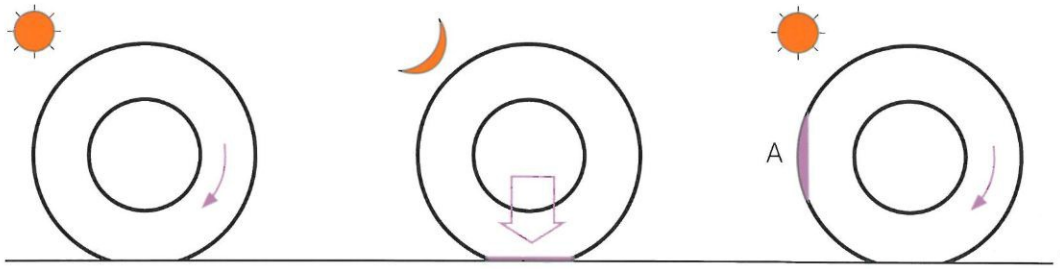
# Vibration

## • Common causes of vibration

### Flat spot

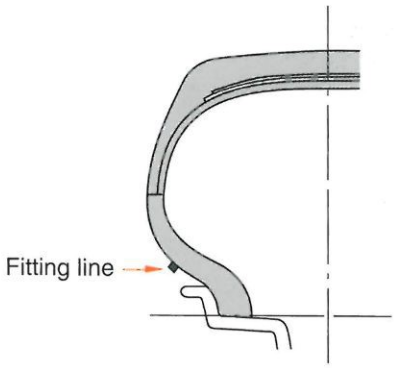
If a car stands for a long time e.g. prior to delivery, there can be a residual deformation on the contact patch. This phenomenon may occur especially in the state of tires under-inflated or on hot summer days. If a car stands for a long time at an outdoor stockyard. For this reason, it can lead to the permanent flat spots. The cars should be moved forward or backward a small distance (about quarter of a turn of the wheel) at least once a month in order to avoid tires becoming permanently flat spotted.




### Tire / Wheel fitment

In order to ensure that a tire / wheel assembly is round, the tire must be correctly fitted to the wheel. The facts below should be checked.

- The tire and wheel must be within tolerance radial run-out.
- After fitting one should always check that the fitting lines are concentrated with the rim flange.
- Wheels should always be cleaned without an accumulation of mud and dirt prior to balancing.




### Other Causes of Vibration

- **Damaged rim :** Check that the wheel rim has not been damaged by driving against a curbstone or similar, as this can result in out-of-round.
- **Braking damage :** Under emergency braking or starting, there is a massive abrasion of tread rubber, which can result in a similar effect to a flat spot. This is usually pronounced on front wheels.
- **Uneven wear :** Several cause of uneven wear can result in vibration. The basic cause is usually some mechanical defect in steering, suspension or braking systems.