

## ⦿ Vibration

Recently in tire industry, ride performance is on the rise due to the customer's strong needs for quality level. This is not only for tire manufacturer but also wheel and car maker's. So, this part introduces the reason, type of vibration and trouble shooting and so on.

### • Causes of vibration

- Bent wheels
- Uneven tread wear
- Out of round
- Improper balance
- Wheel matching
- Run out of hub or old, damaged linkage
- Mechanical deficiency like disk, clutch cover or brake system

### • Type of vibration

#### - Shake

Defined as vertical or lateral vibration of the car body and driver's seat.  
Vibration generally appears at certain speed range with high-speed driving.  
Normally caused by excessive run out in the wheel assembly or lack of tire uniformity.

#### - Shimmy

Defined as a handle-rotational vibration in the steering wheel.  
Vibration appears at low(20~60Km/h) and high(80~160Km/h) speed.  
Normally caused by uneven tread wear, improper wheel balance, or run-out of the wheel, etc.

