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# An engineering approach to load calculations when vehicle runs on the roughness

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*The article describes an engineering calculation method of vertical loads acting on the vehicle when it runs on the road roughness. We obtained ratios between the heights of the irregularities that cause equivalent loads when different wheels run on them. The interrelation between loads that occur when different wheels are hitting on the same road roughness is established on the base of a linear model. Practical importance of the obtained equations consists in a possibility to determine loads on a vehicle in various cases based of the results of one test. Computational results can be used at the early vehicle design stage in strength and durability calculations of bearing systems.*

**Keywords:** vehicle, loads, bearing system, mathematical models, analytical calculation.

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