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VEHICLE VIBRATION – FIELD COMPLAINT ANALYSIS

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ABSTRACT

The objective of this paper is to scrutinize the various methods to quantify the vibration and to resolve the problem of disdainful vibrations. The problem states that the test vehicle was creating huge vibrations with over load conditions on gradient roads. The extensive experimentation & data acquisition was conducted on the 16T payload tipper vehicle for finding the causes and resolving the issue.

The results show that there are drastic improvements in the vehicle. The improvements are at Gear box - 69%; Engine top - 50%; Co-Driver seat - 54%; Gear shift lever - 64%; With these results it was concluded that by increasing the front propeller shaft length & by decreasing the rear propeller shaft length, the higher torsional excitations and secondary couple force which causes vibrations specifically at low speed & high torque condition are reduced. By using the rubber mounts with higher stiffness, low frequency vibrations are damped.