

Chootrakul Siripaiboon 2014: Vibration Analysis for Reduce Vibration of Van Rear Seat. Master of Engineering (Mechanical Engineering), Major Field: Mechanical Engineering, Department of Mechanical Engineering. Thesis Advisor: Assistant Professor Jaytawee Pukrushpan, Ph.D. 50 pages.

Presently, vans are more popular vehicles than buses, because they are faster and more comfortable. However, many passengers avoid sitting on the rear seats, because they have too much impact force and vibration. The rear suspensions of virtually all vans are the leaf spring system, which is suitable for carrying goods, but is less comfortable for passengers. In order to improve seating comfort for rear seat van passengers, a suspension system could be installed between the rear seats and the floor of vans. A complication however, is to calculate suitable suspension settings relative to constant springing and damping. Firstly, vibration data would to be collected to establish required constant springing and damping by utilizing the shock isolator theory. Using Simulink, one can check reducing vibration in a graph simulation, until the suitable setting is reached. The closing size and suitable constant springing and damping variants will also be calculated using Simulink. In accordance with the test results, suitable suspension units can then be installed, ensuring reduced impact and vibration.

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Thesis Advisor's signature