

Rim Size Optimization Using Mathematical Modelling

Authors : M. Tan, N. N. Wan, N. Ramli, N. H. Hassan

Abstract : Car drivers would always like to have custom wheel on their car for two reasons; to improve their car's aesthetic beauty and to improve their car handling. As the size of the rims or wheels played an important role in influencing the way of car handles around turns, this paper aims to present the optimality of rim size that drivers should have known while changing their rim. There are three factors that drivers should have considered while changing their rim: rim size, its weight and material of which they are made. Using mathematical analysis, this paper will focus on only one factor, which is rim size. Factors that are considered in calculating the optimum rim size are the vehicle rim radius, tire height and weight, and aspect ratio. This paper has found that there are limitations in percentage change in rim size from the original tire size. Failure to have the right offset size may cause problems in maneuvering the vehicle.

Keywords : mathematical analysis, optimum wheel size, percentage change, custom wheel

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