

# Design and Fabrication of Automatic Ground Clearance Adjustment Car

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**Abstract:** Road infrastructure varies greatly across urban and rural environments, demanding flexibility from vehicle suspension systems. Fixed ground clearance leads to limitations in both comfort and vehicle safety. This research presents the design and fabrication of an automatic ground clearance adjustment mechanism for automobiles using a motorized pulley and crank system. The system is designed for budget-friendly implementation and improves the versatility of vehicles operating in diverse terrain conditions. This paper explores the theoretical background, system design, fabrication, performance evaluation, and future prospects of the proposed mechanism.

**Keywords:** Ground Clearance Adjustment, Motorized Crank Mechanism, Pulley System, Adaptive Suspension, Vehicle Design Innovation

