A REVIEW ON EXISTING TRICYCLE SUSPENSION SYSTEMS

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Abstract: A tricycle is a three-wheeled human-powered cycle which has improved stability over other types of cycles. Since it is operated by human power, the efficiency and the ergonomics factors are the important design considerations. Accordingly, different tri-cycle designs have been developed. Among them, (i). The Delta Trike, (ii). The Tadpole Trike can be identified as the most commonly available configuration. Tricycles are defined by their wheel arrangement. Delta tricycle has a single front wheel and two rear wheels. The Tadpole tricycle has a single rear wheel and two front wheels. The purpose of this study is to review the various design configurations of tricycles available in the literature. Further, the review presents the technical solutions for developing a stable tilting mechanism which can provide proper alignment of the independent wheels in all possible types of movements driving. Moreover, the paper reviews the limitations in the existing suspension system that lead to unstable and inefficient riding experience. Finally, this study provides valuable insights for tricycle designers to develop a more improved suspension system on comfort, handling, safety, and rider satisfaction for everyday users.

Keywords: Suspension System, Tricycle, Stability, Tadpole Trike, Delta Trike.