MOTORCYCLISTS REACHING POSTURE DATABASE FOR DIFFERENT MOTORCYCLE MODELS

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ABSTRACT

Globally, motorcycle road accidents are increasing annually. Among the efforts in investigating these accidents, motorcycle simulators are used. The Postura MotergoTM which was developed by the Motorcycle Engineering Technology Lab (METAL), Faculty of Mechanical Engineering, Universiti Teknologi MARA (UiTM), Malaysia, is an example of such simulators. The Postura MotergoTM through its adjustability package has a unique capability in replicating various riding postures. However, in order to replicate an accurate depiction of a real motorcycle workstation design, there is the need for a novel database that gives information on the workstation design parameters of various motorcycles. In order to achieve this objective, a specifically built mannequin (the D5EM110N) will be developed as a tool to measure various workstation dimensions on actual motorcycles. CATIA V5R20 Computer Aided Design (CAD) software will be extensively used in designing the mannequin and fabrication will be completed in-house. The motorcycles' design parameters which will be collected via the D5EM110N will then tabulated into the Motorcycle Design Parameter Database (MDPD). The database is then utilized to set up the Postura Motergo^{TM} in order to accurately replicate the desired motorcycle model's workstation design parameters. In order to validate the database, quantitative method via questionnaire survey will be conducted among public motorcyclist. The data obtained will then be processed using SPSS. Consequently, positive feedback are expected towards the implication of the MDPD on the Postura

Motergo^{TM}. Conclusively, via this study, greater usage of the Postura Motergo^{TM} is now obtained, whilst, eliminating for the need of using real motorcycles in a laboratory.

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