

Conceptual framework for the design of a child motorcycle safety seat

Abstract

Motorcycles are a common mode of transport in Malaysia where families with children can be common seen riding together. However a child riding pillion on underbone motorcycles are not safely protected from falling down from the motorcycle apart from holding onto the adult in front. The current feature in an underbone motorcycle seat does not provide or lack the necessary protection for the child pillion riders. The current seat requires a systematic framework in order to design and develop a safety motorcycle backrest seat for Malaysian child pillion riders of underbone type motorcycles. Therefore the main objective of this paper is to propose a conceptual framework to showcase the conceptual design and development of a child friendly motorcycle seat. In order to design and develop our safety motorcycle backrest seat for child pillion riders, a leading International Automotive Consultancy's (IAC) New Product Introduction (NPI) process and subsequent IAC Design & Development Process was adopted and adapted to be able to properly design, develop, test and produce a robust prototype seat. The main IAC NPI will be abbreviated from the kick off until the prototype release milestone. The IAC NPI is then divided to 4 main phases starting from the initiating five concepts and choosing the best concept; designing and developing the chosen concept; building the first prototype test the design; validating the design and releasing the final prototype.

Keyword: Children; Safety; Motorcycles; Malaysia; Design; Framework