

**STUDY ON EFFECTS DRIVER'S POSTURES ON
COMFORT DURING DRIVING**

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STUDY ON EFFECTS DRIVER'S POSTURES ON COMFORT DURING DRIVING

by

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Report submitted in partial fulfillment
of the requirements for the degree
of Bachelor of Engineering



UniMAP

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APPROVAL AND DECLARATION SHEET

This project report titled Study on Effects Driver's Postures On Comfort During Driving was prepared and submitted by Emera Fataha bte Abu (Matrix Number: 061120147) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Product Design Engineering) in Universiti Malaysia Perlis (UniMAP).

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**PEMBELAJARAN TENTANG KESAN KEDUDUKAN TUBUH PEMANDU
DALAM KEADAAN SELESA KETIKA MEMANDU**

ABSTRAK

Memandu adalah salah satu aspek yang penting dalam kehidupan seharian yang tidak dapat dielakkan. Sakit belakang dan lenguh di leher adalah salah satu bahagian di badan yang sering menyerang ketika memandu dalam masa yang panjang. Keselesaan kerusi dalam kereta memainkan peranan dalam mengurangkan ketidakselesaan ketika memandu. Oleh itu, untuk menyiasat masalah ini, tiga cara telah digunakan. Cara yang pertama adalah tinjauan gejala badan, di mana untuk mendapatkan maklumat tentang kedudukan badan ketika memandu, kesakitan yang sering dihadapi ketika memandu dan jenis kereta yang biasa dipandu. Dengan cara ini membantu saya mendapatkan maklumat secara meluas dan tidak hanya bergantung kepada fakta semata-mata. Cara yang kedua adalah membina rekabentuk kereta Proton Iswara dan Perodua Kancil dalam perisian CATIA dan menganalisis kedudukan badan menggunakan kiraan mata RULA. Populasi orang Jepun digunakan sebagai tanda aras ketinggian yang akan digunakan ketika membina model manusia. Ujian memandu turut digunakan untuk membandingkan keputusan yang diperolehi. Seramai 10 orang terlibat dalam ujian ini iaitu lima lelaki dan lima perempuan. Setiap orang akan memandu kedua-dua jenis kereta iaitu kereta Proton Iswara dan Perodua Kancil dengan tiga jarak kerusi yang berbeza iaitu depan, tengah dan belakang. Semua keputusan analisis telah di bincangkan.

STUDY ON EFFECTS DRIVER'S POSTURES ON COMFORT DURING DRIVING

ABSTRACT

Driving is an aspect in life that sometimes we can't avoid. Be in short distance or in long distance, overtime, back ache and neck tension can results for being in one spot with the wrong posture for far too long. A comfortable seat plays an important role in the perception to minimize uncomfortable situation in driving. By improving handle the seat comfort and apply the knowledge of ergonomics principle and method, it will help the driver to reduce the pain of body. There are three methods to investigate this problem. Nordic questionnaire are applied to get information about types of postures, common body in pain and types of car. On the other hand, driving experience was performed. The candidates answer the arm position during driving in long distance. There is a picture in questionnaire of human body seating on the seat car. The candidates circle the answer based on number of discomfort rating and their experience while driving in long distance. The second method is redesign the Iswara's and Kancil's car seat and cockpit of car in CATIA software. In CATIA software, human activity analysis is applied using human model Japanese population in 5th, 50th and 95th percentile and the result will applied the RULA score. From the analysis result, it will compare with the real driving test. There were ten candidates are participate which is five males and five females. Each of them tested Iswara's and Kancil's car in three different distances, forward, in the middle and at the back of seat. All the results have been discussed.

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