Perancangan tas ransel militer yang ergonomis untuk prajurit Tentara Nasional Indonesia dalam model virtual environment = The ergonomics design of the military backpack for Indonesian National Soldiers using virtual environment model

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Abstrak

Penelitian ini mengkaji aspek ergonomi pada desain tas ransel militer dalam model Virtual Environment. Tujuannya adalah mengevaluasi desain aktual tas ransel militer dan menentukan konfigurasi yang paling ergonomis ditinjau dari lebar tas, tinggi tas, dan beban maksimum yang dapat diangkat oleh prajurit yang didasarkan pada antropometri prajurit tentara nasional Indonesia. Analisa desain ergonomi dilakukan dengan menggunakan metode Posture Evaluation Index (PEI) yang mengintegrasikan analisisdari tiga metode analisis: Low Back Analysis (LBA), Ovako Working Posture Analysis (OWAS), dan Rapid Upper Limb Assessment (RULA). Hasil dari penelitian berupa ukuran panjang dan lebar tas ransel militer yang ergonomis beserta berat maksimum yang dapat dibawa oleh prajurit berdasarkan antropometri prajurit tentara nasional Indonesia.

.....This research studies the ergonomic aspect of military backpack design using virtual environment model. The purposeof this study is to evaluate the actual design of military backpack and determine the most ergonomic configuration which concerns on width of the backpack, height of the backpack, and maximum load that can be lifted by a soldier who was based on anthropometry Indonesian national army soldiers. Actual postures of military personnel are being observed and reconstructed on virtual environment using Jack software task analysis toolkits which are Low Back Analysis, Ovako Working Posture Analysis, and Rapid Upper Limb Assessment. The results of the research is the length and width of an ergonomic military backpack with the maximum weight that can be carried by a soldier based anthropometry Indonesian national army soldiers.