

The Application of Ergonomic Assessment in Laser Marking Productivity Improvement

Alein B. Navares, Shellame R. Pepito*

*Department of Industrial Engineering, Cebu Institute of Technology - University,
Cebu City, Philippines 6000.*

**emallesh_pepitz@yahoo.com*

Abstract

This study involves methods and ergonomic assessment of existing LASER marking on watch attachments and casebacks using LASER machines, a necessary non-value adding process in watch manufacturing. Evaluated in this study are the hand motions of the operator and the machine operations in LASER marking. Two types of LASER machines were studied, (1) machine for casebacks and (2) machine for watch attachments. This study aims to increase machine and labor utilization and to minimize operator fatigue. Thus, increasing output capacity and minimizing cost. Anthropometric data of the operators were taken to determine appropriate machine design that would minimize fatigue. Time and motion studies were conducted and the results were used in developing a man-machine chart to determine the existing machine and operator utilization. With the findings from the evaluation, proposed methods improvement and ergonomic design of the machine were developed.