

Laser Marking Productivity Improvement and Ergonomics Assessment in XXX Inc.

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Abstract

This study involves methods and ergonomic assessment of existing LASER marking on watches' attachments and case backs 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 under study, one for the casebacks and one for the watch attachments. This study aims to increase machine and labor utilization and minimizing operator's 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 of the evaluation, proposed methods improvement and ergonomic design of the machine were developed.