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SUPORN RATANAMANEE: EFFICIENCY INCREASING FOR MECHANICAL MACHINE PRACTICE BY USING TIME AND MOTION MANAGEMENT CASE STUDY: HOW TO MAKE HEXAGONAL NUTS BY THE STUDENTS OF SAMUTPRAKARN TECHNICAL COLLEGE. THESIS ADVISORS: CHIRASAKDI POONPOL, M.S. in E.E., SOMPONG THONGCHAI, M.Sc., CHUMPORN YUWAREE, M.Sc., WALLOP CHANTRAKUL, M.Sc. (Tech. Ed.) 143 Pages, ISBN 974-664-748-2.

The research objectives were to study the problems of hexagonal nut making and to increase the efficiency by adaptation of the equipment and tools. The sample used in the study are from 15 second grade students of the mechanical department at Samutrprakarn Technical College.

First, each student made a hexagonal nut 4 times, each time producing 2 hexagonal nuts. Thereby, there were 120 hexagonal nuts after they were completed. According to the methodology of time and motion management, the equipment and tools were adjusted. The students make hexagonal nuts again.

According to the experiment, the time and motion management can increase the efficiency of making hexagonal nuts. As a result, the used time is saved by 4,041.01 seconds or 36.49 percent; the distance is reduced to 654.14 metres or 70.40 percent; and product quality is improved by 1.32.