ABSTRACT

This study aims to find the jobs load and processing sequence on each machine that is used, in order to obtain the minimum makespan using branch and bound method which is performed on Kapal Navigasi DM.30/MI/08/015 PT PINDAD (Persero) *product. Data used in this study are the number of jobs that will be processed, number and types of machine used, the process flow of each job, job processing time and setup time job on each machine.*

The process begins with a branch and bound algorithm. The data used to generate alternatives so that the lower bound on each alternative is obtained, and the alternative with the smallest lower bound is selected. This calculation is done repeatedly until all jobs are scheduled.

Results from the branch and bound method are jobs load and processing sequence on each machine which is fitted to the criteria to be achieved namely makespan minimization. Based on the calculation loop, the selected alternatives produces makespan of 92.5 hours, while the makespan in the scheduling of initial conditions is 96 hours. This figure shows that the scheduling using branch and bound method can minimize the makespan of 3.64%.

Keywords : schedule, makespan, branch and bound, lower bound