

ABSTRACT

PT Dirgantara Indonesia as one of the major companies engaged in manufacturing is the first aircraft industry in Indonesia and in Southeast Asia region. One of the products produced is the component of Aileron CN235, which is the component of CN235 aircraft wing. In the machining process, there is a discrepancy of production time between the standard time and the actual time.

The purpose of this study is to determine job processing sequence to obtain the minimum makespan using genetic algorithm approach. Data used in this research are the processing time (processing time) for each individual job for each machine, set up time for each job on each machine and job sequence (routing) of each part number. Searching the solution begins with initializing the population of the size of the population that had been entered. Then evaluate each individual and calculate the fitness value of each individual. The next step is to do genetic algorithm operations, which are cross-changes and mutation. Those steps are repeated up to meet the stop condition, the maximum generation is the stop condition used in this study.

Genetic algorithm of the output from a sequence of jobs that are adjusted with the minimum makespan criterion. Existing scheduling has a makespan of 205.27 hours, while the solution obtained from the genetic algorithm approach in this study resulted makespan of 190.27 hours. This shows that the scheduling that has been optimized to reduce the makespan of 7.31%.

Keyword : *scheduling, genetic algorithm, makespan*