ABSTRACT

Scheduling is a critical step and the things that are important in the production planning process. Scheduling is one of the activities in production planning that almost certainly exist in any industrial activities, both industrial goods and service industries as well as the aircraft industry PT. Dirgantara Indonesia (DI). CNC Machine H. MACH. CENTER Millac 6H has two pallet that help machines to assist in the production process. Existing production processes in PT. Aerospace Indonesi especially on CNC machines H. MACH. CENTER Millac 6H having problems. The problems faced in this machine is less than optimal performance of two existing pallet. Actual time exceeds the production process from the time it has been targeted by the company. Therefore in this study, the authors make a schedule that can minimize makespan by using Genetic Algorithm so as to reduce the losses faced by the company.

This study begins with a proposed scheduling using Genetic Algorithm to minimize makespan. Genetic algorithm is a heuristic search algorithm based on the mechanism of evolution biologis.Input used in this study is a job and operations, processing time and set up time, the number and specifications of used machinery and some special parameters in the genetic algorithm population size, crossover opportunities , chance mutations, and maximum generation.

Based on the results of the data processing and analysis were performed using the method proposed scheduling Genetic Algorithms have been successfully minimize makespan. This proposed scheduling can minimize the makespan 17.23% .

Key words: ***Scheduling, Genetic Algorithm, Pallet, Makespan, Machining Centers and Genetic Algorithms.***