

ABSTRACT

PT Dirgantara Indonesia is a company engaged in the field of engineering, building design, manufacturing, and production aircraft. One of the machines used in the production process is Flexible Manufacturing System. Flexible Manufacturing System (FMS) is an automated manufacturing system consisting of a collection of machines that are interconnected and storage system that is controlled by the computer in producing products according to the schedule accordingly.

Some of the problems faced by PT Dirgantara Indonesia in the process of production, especially for the work center of the machine Flexible Manufacturing System is not the standard sequence of processing raw materials on the job entry. In addition, the occurrence of a delay in processing job for each work center, including the engine Flexible Manufacturing System. In addition there is the weakness of the backward method is applied this method can not detect the existence of the idle resources so that utility companies can not be maximum.

Break and build method is a new method in the scheduling process that combines the method with the conventional schedule optimization and simulation techniques. In this research, apply to the Break and built method, companies are able to reduce the size of the makespan reaches 27,21% of the Existing. However, one of step in break and built method , breaking stage, can not be applied because the quantity of set part is very small.

Keywords: Break and built method, fuel, makespan, Scheduling, Flexible Manufacturing System, FMS, Heuristik, SPT, FCFS.