ABSTRACT

PT. Dirgantara Indonesia is an Indonesia aircraft manufacturing company. One of its business units is Aerostructure. Aerostructure has a Metal Forming Shop which has one unit Rubber Press ABB (ASEAN BROWN BOVERI) machine used to press form metal sheets.

A Rubber Press ABB machine is optimal if it satisfies 1 major requirement which is have a minimum waste space in each cycle. In the actual situation, this machine wastes an average of 40% of its capacity especially in its tray A. This is the main motive behind this research that is to increase the utilization of tray A by minimizing its waste space by finding the combination of CN-235 parts placed on the Rubber Press ABB using Genetic Algorithm. Genetic Algorithm is an optimization algorithm that is suitable for combinatorial and a big problem space.

This research has shown that the parts scheduled for three days can be optimized using the genetic algorithm resulting in a total usage of 30 trays (24 trays for material type T0 and 6 trays for material type T3) with an average waste space of 23,23%. In addition, this research also draws the part placement to guide the operator in placing the parts in the tray.

Key words: Rubber Press ABB, Optimal space, Genetic Algorithm