ABSTRACT

PT. Padina Baraya Jaya is a company in Indonesia that engages in manufacturing that produces automotive spare parts. PT Padina Baraya Jaya receives orders with a concept project which is carrying out the production process according to the request from the company and the agreed due date. PT Padina Baraya Jaya applies a job shop work system in their production process. One of them is dashboard assy production which is the object of this research. PT Padina Baraya Jaya experienced problems in their scheduling system which resulted in production process delays. Based on the problems faced by PT Padina Baraya Jaya, the Final Project proposes a scheduling system design that can minimize makespan so that delays in delivery to consumers can be reduced. The method proposed in this final project is to use the Branch and Bound algorithm. The result of the final project using the brand and bound algorithm method obtained optimal results in minimizing make span from 229,5 hours or equivalent to ten days to 109,5 hours or equivalent to five days. In scheduling the actual production process of dashboard assy, it takes about 75 days, but after using the brand and bound algorithm method it can be minimized to 70 days. That makes the percentage of decrease in makes pan value is 52,29%.

Keyword- ***branch and bound algorithm, Makespan, Job shop schedulling***