

## **ABSTRACT**

*PT Dirgantara Indonesia is the only aircraft industry company in Indonesia located in Bandung, West Java. This company has various departments, one of which is the engine department. This department is responsible for managing manual machines and Computer Numerically Control (CNC) machines to produce detailed aircraft components. Based on the information obtained, the engine area is an active work station and it was found that several machines used often experience damage that can cause production operations to stop. One of the CNC machines owned by the engine area is a CNC Lathe machine with the Okuma Howa ACT-4 machine type. Based on the frequency graph, the damage to the Okuma Howa ACT-4 machine is very high. Downtime is a period when the machine cannot operate for a certain time. From the results of the frequency that occurred, damage to the CNC Lathe machine had the highest number of damages of 6 times. While repairing the damaged machine, the machine will experience downtime. In solving this problem, the Overall Equipment Effectiveness (OEE) method and age replacement model are used. The Overall Equipment Effectiveness (OEE) method is used to measure the effectiveness of the use of machines or production equipment. Age replacement model is an approach in maintenance management that aims to determine the optimal time for preventive replacement to minimize total downtime per unit time. With both methods, production efficiency can be increased, namely, OEE provides a comprehensive picture of machine performance, while the Age Replacement Model provides a framework for making optimal replacement decisions so that companies can achieve long-term goals of maximizing productivity and minimizing costs. The proposed design is preventive maintenance scheduling for the Okuma Howa ACT-4 CNC machine. The design is made to minimize downtime that occurs on the machine. This design aims to reduce downtime on the machine. Preventive maintenance scheduling for weaving machines is done by calculating the Mean Time to Failure (MTTF) and Mean Time to Repair (MTTR) values as a method in preventive maintenance. The selected critical components of the Okuma ACT-4 CNC machine are lube and coolant with the highest downtime of 217 hours.*

**Keywords — [Age Replacement Model, OEE, Preventive Maintenance]**