ABSTRACT

Along with the development of the automotive world is growing rapidly, so the competition among automotive manufacturers more stringent in creating products that can meet market demand. There are several technologies that are applied as a refinement of components used in motor vehicles that are useful to improve the engine performance of a motor vehicle. Fuel combustion process, for example, that occurs on a motorized machine using a media that is spark plug. Spark plug essentially has a vital function. Without a spark plug motor vehicle certainly will not be lit.

By producing spark plug every day and increasingly sharp competition in the automotive industry, then the condition forces PT DNS to further improve the smoothness, effectiveness and efficiency of its production activities. One of the things that support the smoothness of production activities is the readiness of the machine in performing its duties. One way to measure the performance of the machine in general (availability, performance rate, and rate of quality) is by using the OEE (Overall Equipment Effectiveness) method and to minimize losses that may be borne by the company is to improve RAM (Reliability, Availability and Maintainbility) of the machine itself. Using data in the form of Mean Time Between Failure and Mean Time To Repair is useful to assess the performance of the working system.

Based on data processing RAM Analysis using Reliability Block Diagram modeling, critical subsystem has a reliability value of 68.99% at 112 hours based on analytical approach. The average maintainability of the subsystem at t = 25 hours was 97,42%. Inherent Availability value of 98,14% and the value of Operational Availability of 96,24%. Based on the evaluation that has been done using world class maintenance of Key Performance Indicator, the indicator of leading and lagging availability has reached the target given. If based on the OEE method calculation, the OEE value of Caulking Line 6 machine is 71,32%. The results of these calculations are still below the standards set by the Japan Institute of Plant Maintenance, which amounted to 85%. From six big losses it is known that the most influential factor to decrease the effectiveness of Caulking Line 6 machine is the reduce speed factor which is 40,9%.

Keywords: Key Performance Indicator, RAM*, Reliability Block Diagram,* OEE*, Six Big Losses.*