

ABSTRAK

Penerapan *Total Productive Maintenance* (TPM) dapat membantu mempertahankan produktivitas secara efektif dan efisien, dimana peralatan dan mesin selalu dalam kondisi prima. PT DJ merupakan salah satu perusahaan manufaktur yang bergerak di bidang karoseri. Dalam menghadapi persaingan di bidang industri, perusahaan selalu mengutamakan kualitas untuk memaksimalkan manfaat setiap produknya, jika terjadi masalah pada salah satu mesin maka proses produksi akan berhenti. Indikator kesuksesan dalam penerapan TPM diukur dengan menggunakan metode *Overall Equipment Effectiveness* (OEE), sehingga diketahui tingkat efisiensi mesin (*availability, performance dan quality yield*). Penelitian ini bertujuan untuk mengetahui nilai efektivitas mesin kritis CNC *Cutting* berdasarkan metode OEE. Dari metode OEE didapatkan Rata – rata nilai OEE mesin CNC *Cutting* yaitu sebesar 88,73% . Persentase *Six Big Losses* terbesar yaitu pada *Breakdown Losses* sebesar 29,34%, diikuti *Reduced Speed Losses* sebesar 28,14 %, kemudian *Set-up and Adjustment Losses* sebesar 22,57%, *Quality Defect Losses* sebesar 18,10%, kemudian *Yield Losses* sebesar 1,86%. Berdasarkan pendekatan *Fishbone diagram* dan *failure modes & effects analysis* (FMEA), didapatkan usulan perbaikan untuk perusahaan yaitu pembuatan jadwal *preventive maintenance*, dengan menggunakan perhitungan MTBF, MTTR dan MDT. Selain itu membuat *Cleaning map* dan *Defact map*, membuat SOP perawatan mesin CNC *Cutting*, dan membuat SOP dari pelaksanaan *autonomous Maintenance*. Selain itu penulis membuat Operation Proses Chart.

Kata kunci: *Total Productive Maintenance, overall equipment effectiveness, Six Big Losses, failure modes and effects analysis*

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ABSTRACT

The implementation of Total Productive Maintenance (TPM) can help maintain productivity effectively and efficiently, where equipment and machines are always in prime condition. PT DJ is one of the manufacturing companies engaged in the carosery. In facing competition in the industrial sector, the company always prioritizes quality to maximize the value of each product, if there is a problem with one of the machines, the production process will stop. Indicators of success in implementing TPM are measured using the Overall Equipment Effectiveness (OEE) method, so that the level of engine efficiency (availability, performance and quality yield) is known. This study aims to determine the effectiveness of the critical CNC Cutting machine based on the OEE method. From the OEE method, the average OEE value of the CNC Cutting machine is 88.73%. The biggest percentage of Six Big Losses is Breakdown Losses of 29.34%, followed by Reduced Speed Losses of 28.14%, then Set-up and Adjustment Losses of 22.57%, Quality Defect Losses of 18.10%, then Yield Losses by 1.86%. Based on the Fishbone diagram approach and failure modes & effects analysis (FMEA), the proposed improvements for the company are making a preventive maintenance schedule, using MTBF, MTTR and MDT calculations. In addition, making Cleaning maps and Defact maps, making SOPs for CNC Cutting machine maintenance, and making SOPs for the implementation of autonomous maintenance. For this case the author makes an Operation Process Chart.

Keywords : Total Productive Maintenance, overall equipment effectiveness, Six Big Losses, failure modes and effects analysis