

ABSTRACT

At the time of the study there is a system failure maintenance on power press machine 60T-4 clutch brake is abnormal, it is disturbing the production process, the success of the performance seen from the achievement of value overall equipment effectiveness (OEE): 43%, require the identification and analysis of factors the cause of the abnormal clutch brake on the process of production of metal case.

For the prevention of damage to the machine need to establish methods of improvement by using the concept of Autonomous Maintenance, Preventive Maintenance and Reliability Centered Maintenance (RCM). The concept is used to prevent failureg, the method of fault tree analysis (FTA), failure mode and effects analysis (FMEA), Mean Time Between Failure (MTBF) is an RCM analysis to implement the system on the machine and components so as to identify and detection early of malfunctions before the machine is broken.

The Results showed the implementation of maintenance system so that the identification of critical components can be anticipated from damage, overall there was an increase in the value of OEE be: 74%, an increase of 31%.

From this study can be concluded that the FMEA, FTA, MTBF can be used to create a system of autonomous maintenance, preventive maintenance and reliability centered maintenance can facilitate the production and maintenance in determining the appropriate engine maintenance activities.

Keywords: *OEE, Autonomous Maintenance, FMEA, FTA, MTBF and RCM.*



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ABSTRAK

Pada saat penelitian dilakukan terdapat kegagalan sistem pemeliharaan pada mesin *power press* 60T-4 yaitu *clutch brake abnormal*, hal ini mengganggu proses produksi, keberhasilan kinerja dilihat dari pencapaian nilai *overall equipment effectiveness* (OEE) : 43%, memerlukan identifikasi dan analisa terhadap faktor-faktor penyebab terjadinya *clutch brake abnormal* pada proses produksi *metal case* di mesin *power press* 60T-4.

Untuk pencegahan kerusakan mesin perlu menetapkan metode perbaikan dengan menggunakan konsep *Autonomous Maintenance*, *Preventive Maintenance* dan *Reliability Centered Maintenance* (RCM). Konsep tersebut digunakan untuk mencegah kegagalan mesin sejak awal, metode *fault tree analysis* (FTA), *failure mode effect and analysis* (FMEA), *mean time between failure* (MTBF) merupakan analisa untuk menerapkan sistem RCM pada mesin dan komponen penting sehingga dapat mengidentifikasi dan deteksi awal gejala kegagalan fungsi sebelum mesin rusak.

Hasil dari penelitian diperoleh penerapan sistem pemeliharaan yang lebih baik sehingga identifikasi terhadap komponen penting dapat diantisipasi dari kerusakan, secara keseluruhan ada peningkatan nilai OEE menjadi : 74%, meningkat 31%.

Dari penelitian dapat disimpulkan bahwa analisa FMEA, FTA, MTBF dapat digunakan untuk membuat sistem *autonomous maintenance*, *preventive maintenance* dan *reliability centered maintenance* dapat memudahkan produksi dan *maintenance* dalam menentukan aktifitas pemeliharaan mesin dengan tepat.

Kata Kunci : *OEE, Autonomous Maintenance, FMEA, FTA, MTBF dan RCM.*

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