

ABSTRAK

PT. TMMIN menerapkan *Total Productive Maintenance* (TPM) yang bertujuan utama untuk menciptakan kinerja ideal produksi tanpa gangguan (*zero breakdown*). Pada keadaan aktualnya, menurut data *monitoring* dari *department maintenance* PT. TMMIN masih terjadi banyak *breakdown* pada *line camshaft* yang tidak memenuhi standar perusahaan yaitu 7,5 jam perbulan, yang terjadi pada periode Januari hingga Mei 2019. Oleh sebab itu tujuan dari penelitian ini adalah usulan perbaikan *Preventive Maintenance* menggunakan metode *Reliability Centered Maintenance* (RCM) dan *Failure Mode and Effect Analysis* (FMEA) pada mesin *line camshaft*. Hasil analisis menunjukkan bahwa mesin IGR-0040 mendapatkan nilai *availability* 72,88% dan *reliability* sebesar 55% pada keadaan aktual, yang berarti itu tidak sesuai standar perusahaan dengan *availability* 90% dan *reliability* sebesar 80%. Dalam identifikasi kegagalan mesin IGR-0040 *item rest shoe* mengalami tingkat kegagalan paling tinggi. Setelah mengetahui keadaan aktual perusahaan, maka dilakukan usulan perbaikan waktu *interval maintenance* dan didapatkan periode penjadwalan selama 9.85 jam dengan estimasi *reliability* meningkat sebesar 61%.

Kata kunci: *Total Productive Maintenance* (TPM), *Camshaft*, *Reliability Centered Maintenance* (RCM), *Failure Mode and Effect Analysis* (FMEA)

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ABSTRACT

PT. TMMIN implements Total Productive Maintenance (TPM) whose main objective is to create ideal production performance without interruption (zero breakdown). In actual situation, according to monitoring data from the maintenance department of PT. TMMIN still has many breakdowns on the camshaft line that do not meet company standards, namely 7.5 hours per month, which occur in the period January to May 2019. Therefore, the aim of this research is to improve Preventive Maintenance using the Reliability Centered Maintenance (RCM) method and Failure Mode and Effect Analysis (FMEA) on line camshaft engines. The results of the analysis show that the IGR-0040 machine gets 72.88% availability and 55% reliability in actual conditions, which means that it does not match the company's standards with 90% availability and 80% reliability. In identifying engine failure, the IGR-0040 item rest shoe experienced the highest failure rate. After knowing the actual condition of the company, a maintenance interval was proposed to be improved and a scheduling period was obtained for 9.85 hours with an estimated reliability increase of 61%.

Keywords: Total Productive Maintenance (TPM), Camshaft, Reliability Centered Maintenance (RCM), Failure Mode and Effect Analysis (FMEA)

