

ABSTRAK

Meningkatkan Nilai *OEE* di *Cylinder Block Machining Line* Menggunakan Pendekatan *Total Productive Maintenance*, *FMEA* dan *QFD* Pada Tahun 2018 – 2019

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Proses permesinan “*Cylinder Block*” di salah satu perusahaan manufaktur otomotive besar di Indonesia sudah memasuki level perusahaan dunia jika dilihat dari pencapaian nilai *Overall Equipment Effectiveness (OEE)* dari *Total Productive Maintenance (TPM)* yang bernilai 87% dari bulan September sampai November 2018 jika dibandingkan dengan standar *The Japan Institute of Plant Maintenance (JIPM)* sebesar 85%. Walaupun sudah mencapai level perusahaan dunia, peneliti dan *kaizen team* berusaha meningkatkan nilai *OEE* melalui perbaikan terus menerus. Langkah-langkah yang dilakukan untuk meningkatkan *OEE* yaitu dimulai dengan pengukuran nilai *OEE*, faktor penunjangnya dan *Six Big Losses*. Dengan *diagram pareto* didapatkan masalah prioritas, kemudian mencari akar penyebab permasalahan menggunakan *Fishbone Diagram*. Untuk masalah *Availability* dianalisa menggunakan metode *Failure Mode and Effect Analysis (FMEA)* Selanjutnya melakukan perbaikan pada “*Cylinder Block Machining Line*” yaitu dengan melakukan penambahan item pemeriksaan *TPM Planned Maintenance (PM)*, penambahan item pemeriksaan *TPM Autonomous Maintenance (AM)* dan melakukan sistem umpan balik ke komponen yang lain di mesin yang sama dan ke mesin lain yang serupa. Selanjutnya penelitian dilanjutkan untuk mencari perbaikan *Rate of Quality* produk cor *cylinder block* menggunakan *Quality Function Deployment (QFD)*. Sehingga didapatkan peningkatan nilai *OEE* sebesar 93,0% pada bulan Februari 2019.

Kata kunci : *TPM, OEE, Six Big Losses, FMEA dan QFD.*

ABSTRACT

To Increase OEE Value on Cylinder Block Machining Line Using Total Productive Maintenance, FMEA and QFD Approach in 2018 - 2019

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"Cylinder Block" machining process in one of big Automotive manufacturing company in Indonesia has launched a world-class company if reviewed from the achievement level of Overall Equipment Effectiveness (OEE) of Total Productive Maintenance (TPM) value from September until November 2018 is 87% compare to The Japan Institute of Plant Maintenance (JIPM) standard 85%. Even though it has reached the level of world companies, researcher and kaizen team have effort to continue to increase the value of OEE through continuous improvement. The steps taken to improve OEE, starting with measuring OEE, the factors and Six Big Losses. Using Pareto Diagram we can find priority problem, then look for the root causes of the problems using Fishbone Diagram, for analysis Availability problem we use Failure Mode and Effect Analysis (FMEA). The improvements at "Cylinder Block Machining Line" are as follows: additional TPM PM Point check, additional TPM AM Point check and doing feedback system to others component in same machine and to others similar machines. Then research was continued to find out quality problem of cylinder block casting product using Quality Function Deployment (QFD) method. Then we can achieved OEE value was 93.0% in February 2019.

Keywords: TPM, OEE, Six Big Losses, FMEA and QFD.

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