ABSTRACT

PT. Traktor Nusantara *is a rental and maintenance company of heavy equipment. Forklifts are the most commonly purchased and leased equipment by other companies. The forklift quality has a very important role in providing performance when it used. The maximum performance produce must be eliminated the possibility of failure or damage to the forklift either because of the process material or the human.*

This analysis aims to determine the cause of each failure that wasoccurred. The result of cause failure analysis would be inserted into FMEA table that has been filled with the following data: severity, detection, occurrence and RPN value. 15 components that have been selected in accordance with the number of damages that occur in the field is analyzed based on FMEA method, it is obtained from the results of the review, that is severity, detection, and occurence that generate a RPN value (Risk Priority Number). The priority determination of the critical component is selected in the order of the highest number of RPN, which then the result of the RPN value can be further described sequentially in the rank column.

The FMEA method result is obtained critical component with each third highest RPN value that is Battery Charger broken, Battery Damage and Hydraulic Cylinder Leak. It will then explain the intent and action to address the critical component. The Battery Charger obtained severity value is 8, Detection is 10 and Occurrence is 1, On Battery severity value obtained that is 8 detection is 3 and occurrence is 1 and Hydraulic Cylinder obtained severity value is 8, detection is 4 and occurrence is 1.

Key words: FMEA and Forklift

INTISARI

PT. Traktor Nusantara bergerak di bidang penyewaan dan perawatan alat berat. *Forklift* adalah alat berat yang paling sering dibeli dan disewa oleh perusahaan lain. Kualitas *forklift* mempunyai peranan yang sangat penting dalam memberikan performa saat digunakan. Untuk menghasilkan performa yang maksimal maka haruslah dieliminir kemungkinan terjadinya kegagalan atau kerusakan pada *forklift* baik karena faktor proses material, maupun manusia.

Analisa dilakukan untuk mengetahui penyebab dari tiap kegagalan yang terjadi. Hasil analisa penyebab kegagalan kemudian dimasukkan ke dalam tabel FMEA (*Failure Mode Effect Analys*) yang telah terisi data-data kegagalan beserta nilai *severity, detection, occurrence* dan RPN (*Risk Priority Number*). Dari 15 komponen yang telah dipilih sesuai dengan banyaknya kerusakan yang terjadi di lapangan dilakukan analisis berdasarkan pendekatan FMEA, ditinjau dari 3 hal yaitu *severity, detection,* dan *occurence* yang menghasilkan nilai RPN. Penentuan prioritas komponen kritis dipilih berdasarkan urutan jumlah RPN tertinggi, yang selanjutnya hasil dari nilai RPN tersebut dapat lebih dijelaskan secara berurutan dalam kolom *rank.*

Hasil penerapan metode FMEA diperoleh komponen kritis dengan masing-masing nilai RPN ketiga tertinggi yaitu *Charger* Baterai rusak, Baterai Rusak dan *Hydraulic Cylinder* Bocor. Selanjutnya akan dijelaskan maksud serta tindakan untuk menanggulangi komponen kritis tersebut. Pada *Charger* Baterai didapatkan nilai *severity 8, detection 10 dan Occurrence 1,* Pada Baterai didapatkan nilai *severity* yaitu *8 detection 3 dan occurrence 1 dan Hydraulic Cylinder* didapatkan nilai *severity* 8, *detection 4 dan occurrence 1.*

Kata kunci : FMEA dan *forklift*