ABSTRAK

Peranan unit excavator Caterpillar 320 di lingkung Gadjah Gunung Depo sangat bergantung pada komponen undercarriage. Bagian undercarriage sangat mempengaruhi kinerja dari excavator. Tujuan dari penelitian ini adalah mengetahui persentase keausan komponen undercarriage excavator caterpillar 320, mengetahui prediksi sisa usia pakai pada komponen undercarriage excavator caterpillar 320, mengetahui penyebab komponen undercarriage mengalami keausan.

Penelitian mengenai tingkat keausan dan sisa usia pakai ini diperlukan analisis faktor keausan pada komponen menggunakan diagram fishbone. Data yang diperoleh dari unit excavator caterpillar 320 yang berada di Gadjah Gunung Depo dilakukan dengan cara wawancara dengan pemilik dan operator, serta melakukan pengukuran terhadap komponen excavator.

Hasil perhitungan persentate keausan dan sisa usia pakai komponen undercarriage, didapat persentase tingkat keausan bagian track shoe sebesar 66,9% dan sisa usia pakai 11.557 jam, tingkat keausan bagian track roller sebesar 139,5% dan sisa usia pakai menunjukan angka (-4649) jam karena keausan telah melebihi 100%, tingkat keausan bagian carrier roller sebesar 224,9% dan sisa usia pakai menunjukan angka (-10.837) jam, karena keausan telah melibihi 100%. Melalui metode fishbone juga didapat upaya pencegahan untuk mengurangi persentase keausan yang terjadi di komponen undercarriage.

Kata Kunci: Excavator Caterpillar 320, Undercarriage, Track shoe, Track roller, Carrier roller, Diagram fishbone

ABSTRACT

The role of the Caterpillar 320 excavator unit in the Gadjah Gunung Depo environment is very dependent on the undercarriage component. The undercarriage greatly affects the performance of the excavator. The purpose of this study was to determine the percentage of wear of the caterpillar 320 excavator undercarriage components, to determine the prediction of the remaining service life of the caterpillar 320 undercarriage components, to determine the cause of the wear and tear of the undercarriage components.

Research on the level of wear and remaining life requires analysis of the wear factor on components using a fishbone diagram. The data obtained from the caterpillar 320 excavator unit located at Gadjah Gunung Depo was carried out by interviewing the owner and operator, as well as measuring the excavator components.

The results of the calculation of the percentage of wear and the remaining life of the undercarriage components, the percentage of the wear rate of the track shoe is 66.9% and the remaining life is 11,557 hours, the wear rate of the track roller is 139.5% and the remaining life is the number (-4649) hours because the wear and tear has exceeded 100%, the wear rate of the carrier roller is 224.9% and the remaining service life shows the number (-10,837) hours, because the wear and tear has exceeded 100%. Through the fishbone method, prevention efforts are also obtained to reduce the percentage of wear that occurs in the undercarriage components.

Keywords: Caterpillar 320 Excavator, Undercarriage, Track shoe, Track roller, Carrier roller, Fishbone diagram.