

INTISARI

Excavator, alat berat penting di bidang konstruksi dan pertambangan, memiliki bagian yang kontak langsung dengan medan bernama *undercarriage*. Tanpa penanganan yang tepat, *undercarriage* dapat mengalami keausan, yang mengakibatkan penurunan kinerja komponen tersebut.. Tujuan dari penelitian ini adalah untuk mengetahui presentase keausan dan sisa umur pakai komponen *undercarriage* yang meliputi *track shoe*, *track roller*, dan *sprocket*. Dalam penelitian ini, metode yang digunakan untuk menganalisis faktor keausan pada komponen *track shoe*, *track roller* dan *sprocket* adalah metode *fishbone* (tulang ikan).

Hasil yang diperoleh berdasarkan penelitian yang telah dilakukan yaitu persentase keausan komponen selama 9518 jam untuk bagian kiri *track shoe* 38,50% *track roller* 30,00% dan *sprocket* 28,00%. Sisa umur pakai bagian kiri komponen *track shoe* 15204 jam, *track roller* 11721 jam dan *sprocket* 24475 jam. Presentase keausan komponen selama 9518 jam bagian kanan *track shoe* 43,37%, *track roller* 38,80% dan *sprocket* 36,40%. Sisa usia pakai bagian kanan *track shoe* 12428 jam, *track roller* 86241jam, dan *sprocket* 16630 jam. Dari metode *fishbone* hasil di peroleh yaitu ada beberapa faktor terjadinya keausan pada komponen *track shoe*, *track roller*, dan *sprocket*. Faktor-faktor tersebut meliputi cara pengoperasian operator yang berbeda saat mengoperasikan *excavator*, lingkungan medan kerja *excavator* terdapat pasir, batu, ataupun lumpur yang menempel pada komponen *undercarriage* menyebabkan karat pada komponen sehingga dapat terjadi kerusakan dini dan memperpendek umur pakai komponen dan *maintenance* yang dilakukan tidak rutin.

Kata Kunci: *Excavator*, *Undercarriage*, *Track shoe*, *Track roller*, *Sprocket*, *Fishbone*.

ABSTRACT

The excavator, an essential heavy equipment in construction and mining, features a component that directly contacts the terrain, known as the undercarriage. Without proper maintenance, the undercarriage may experience wear, leading to a decline in its performance. This study aims to determine the wear percentage and remaining service life of undercarriage components, including the track shoe, track roller, and sprocket. The fishbone method was employed to analyze the factors contributing to wear on these components.

The results of the research indicate that, after 9,518 hours of operation, the wear percentages for the left side components are 38.50% for the track shoe, 30.00% for the track roller, and 28.00% for the sprocket. The remaining service life for the left side components is 15,204 hours for the track shoe, 11,721 hours for the track roller, and 24,475 hours for the sprocket. For the right side components over the same period, the wear percentages are 43.37% for the track shoe, 38.80% for the track roller, and 36.40% for the sprocket, with remaining service lives of 12,428 hours for the track shoe, 8,621 hours for the track roller, and 16,630 hours for the sprocket. The fishbone method revealed several factors contributing to wear on the track shoe, track roller, and sprocket. These factors include varying operational methods by different operators, environmental conditions such as the presence of sand, rocks, or mud on the undercarriage components leading to rust, and inadequate maintenance performed on a non-routine basis.

Keywords: Excavator, Undercarriage, Track shoe, Track roller, Sprocket, Fishbone Diagram.