ABSTRAK

Penelitian dilakukan pada proses kerja di salah satu perusahaan di PT. XYZ yang bergerak pada industri ban. Aktivitas yang dilakukan adalah memindahkan *green tire* (ban setengah jadi) dari mesin menuju *lorry*. Pemindahan *green tire* dalam melaksanakan proses kerjanya dalam satu shift (8 Jam kerja) operator transfer ini memindahkan rata-rata lebih dari 2000 pcs *green tire* dari *conveyor transfer* ke *lorry* secara manual. Rata-rata berat *green tire* adalah 25 kg, harus dipindahkan sesui dengan size dalam satu *lorry*. Dalam seksi interaktif kami terhadap operator, mengatakan beberapa keluhan terhadap otot yang ditimbulkan saat melakukan pengangkatan serta pemindahan ke *conveyor & lorry*. Oleh karena itu, diperlukan penelitian lebih lanjut untuk menganalisis besarnya tingkat risiko ergonomi pada proses pemindahan *green tire* ini. Serta meberikan usulan terhadap analisa resiko tersebut.

Dari aktivitas *transfer green tire*, dibagi menjadi beberapa proses analisa, dari perhitungan nilai REBA (*Rapid Entire Body Assesment*) diperoleh hasil REBA yaitu proses mengangkat *green tire transfer1* nilai REBA 5 resiko cidera otot sedang dan perlu tindakan perbaikan. Pada proses meletakkan *green tire transfer1* nilai REBA 6 resiko cidera otot sedang dan perlu tindakan perbaikan. Pada proses menarik green tire transfer2 nilai REBA 10 resiko cidera tinggi dan perlu perbaikan secepatnya. Pada proses mengangkat *green tire transfer2* nilai REBA 11 resiko cidera otot sangat tinggi dan perlu perbaikan sekarang juga. Pada proses meletakkan ke *lorry* bawah nilai REBA 9 resiko cedera otot tinggi dan perlu perbaikan secepatnya. Pada proses meletakkan ke *lorry* atas nilai REBA 10 resiko cedera otot tinggi dan perlu perbaikan secepatnya.

Nilai antropometri dari 28 operator ditentukan nilai yang berkaitan dengan perancangan yaitu TSB (Tinggi Siku Berdiri), JT (Jangkauan Tangan), RT (Rentangan Tangan). Data selanjutnya dilakukan uji kecukupan data dan keseragaman data, serta perhitungan persentil 5 yang menunjukkan data tubuh berukuran kecil yaitu: Panjang tinggi siku berdiri sebesar 63 cm, sebagai dasar pembuatan tinggi rancangan. Panjang rentangan tangan sebesar 139 cm, sebagai dasar pembuatan panjang rancangan dan panjang jangkauan tangan 58 cm, sebagai dasar pembuatan lebar rancangan. Hasil akhir dari penelitian ini adalah desain perancangan jembatan transfer dan desain *conveyor* yang mengacu pada data persentil 5 yang telah dihitung.

Kata kunci : Ergonomi, REBA, Antropometri, *Convryor*.

ABSTRACT

The research was conducted on the work process in a company named PT XYZ that is engaged in the tire industry. The activity is to move the green tire from the engine to the lorry. The transfer of green tire in carrying out its work process in one shift (8 hours of work). The transfer operator moves green tire on average more than 2000 pcs from conveyor transfer to lorry manually. The average green tire weight is 25 kg, must be moved in accordance with the size in one lorry. In our interactive section with operators, the operator says several complaints against muscle that is generated during the lifting and transfer to conveyor & lorry. Therefore, further research is needed to analyze the level of ergonomic risk in this green tire removal process. And give advice to this risk analysis.

From green tire transfer activity, divided into several analysis process, from calculation of REBA value (Rapid Entire Body Assesment) obtained REBA result from the process of lifting green tire transfer1 with REBA value 5, risk of moderate muscle injury and need corrective action. In the process of putting green tire transfer1 with REBA value 6, risk of moderate muscle injury and need corrective action. In the process of attracting green tire transfer2 with REBA value 10, risk of muscle injury is high and need immediate repair. In the process of lifting the green tire transfer2 with REBA value 11, the risk of muscle injury is very high and needs improvement now. On the process of putting into the bottom lorry with REBA value 9 the risk of muscle injury is high and need immediate repair. On the process of putting into lorry with REBA value 10, the risk of muscle injury is high and need immediate repair.

The anthropometric value of 28 operators determined the values that associated with the design of TSB (Elbow Standing), JT (Range of Hand), RT (Hand Span). After that, data were tested by sufficiency test and uniformity test, and calculation of 5th percentile showing data on small body that is: length of elbow standing of 63 cm, as the basis for making height of the design. The length of the arm span of 139 cm, as the basis of making the length of the design and the length of the hand reach 58 cm, as the basis of making the width of the design. The final result of this research is design of transfer bridge and conveyor design refers to 5th percentile data that has been calculated.

Keywords: *Ergonomics, REBA, Anthropometry, Conveyor.*