

ABSTRACT

This research discuss the problem that exist at PT. XYZ. A problem was found in Plant 3 Assy Engine 3C section M23 Pulley Assy Driven workstation. There was a musculoskeletal disorders (MSDs) risk on the awkward operator's posture that bending over when the operator takes pulley assy on the bottom tray. Based on the RULA assessment, the score of the posture was 7. Which means that investigate and change immediately needed (urgent). This awkward posture also causes the target of the company that is ≤ 22 seconds for each work station cycle time, was not achieved. Due to the awkward posture, the cycle time of the M23 work station becomes longer, which is between 23 – 25 seconds. This is because the MHE's height that carrying pulley assy cannot be set so the operator has to bend with one foot pedestal to reach the part on the bottom pile tray. Therefore, we need a tool that can adjust the height of the MHE, so the operator can reach the pulley assy without bending over. By adjusting to user needs, then develop the MHE lifter. The development of this MHE lifter uses reverse engineering approach because in this research, it is redesigned based on existing product as the initial reference for proposed product development. From the development using this approach, will be obtained the concept of MHE train lifter with specifications and features that fits user needs.

Keywords: *Reverse engineering & redesign methodology, Car scissor lift, RULA, musculoskeletal disorders, hydraulic lifter*