ANALYSIS AND OPTIMIZING OF AUTOMOTIVE MECHANICAL LINE THROUGH LINE BALANCING : CASE STUDY AT PT. XYZ

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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This research based on the case study in PT. XYZ, is addressed how to optimize the mechanical assembly line by rebalancing the line in order to reduce bottleneck and idle time, increase line efficiency and also reduce the unnecessary movement that occur when operators want to pick up the parts, by doing this hopefully mechanical line can reach production target and PT.XYZ can fullfil the customer's demand. Based on observation the company want to produce a new type of vehicle and want to increase throughput from 8 to 10 vehicle per day. Therefore, in this research line balancing problem is solved using teoritical approaches to find the best solution by distributing work element or tasks of workstation so that the number of workstation or operator can be optimized. The methods are The Largest Candidate Rule and Rank Positional Weight, also this thesis want to reduce waste of motion by doing the trolley part arrangement and make a gravity rack to replace the current STP trolley. The analysis problem is begin with time study. Those methods are compared then translated to system modeling simulation using tecnomatix plant simulation as the result of this thesis

Keywords: Line Balancing, Assembly Line, Bottleneck, The Lagest Candidate Rules, Ranked Positional Weight

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DEDICATION

I dedicate this thesis to my parents I Made Nasa and Fenny Nansie for their unconditional love. To my family for their support to my lectures for their advices, support and guidance To my friends for their support and motivation, To myself who put my best on this thesis And my future.

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