

Design of Conveyor System and Fixture Assembly of Kit-Bin Handling System in Engine Assembly Area

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Abstract: *This work presents an application of the concept of concurrent engineering and the principles of design for manufacturing and design for assembly; several critical conveyor parts were investigated for their functionality cost and ease of assembly in the overall conveyor system. The critical parts were modified and redesigned with new shape and geometry and some with new materials. The improved design methods and the functionality of new conveyor parts were verified and tested on a new test conveyor system designed, manufactured, and assembled using the new improved parts. The improved methodology for design and production of conveyor components is based on the minimization of material, parts using the rules of design for manufacture and design for assembly. The semi-finished material has to be transported from one station in the assembly to another at a distance of up to 20 meters or more. The method of manual transport by fork-lift is time consuming. A mechanism for continuous and uninterrupted transport is desired. This is carried out with reference to the roller conveyor system (Existing system). The existing system will be redesigned and optimized for weight, resulting in material saving by modifying and analysing critical conveyor parts.*

Keywords: Belt Conveyor, Fixture Assembly, Roller and Kit-bin, etc.

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