DESIGN AND CONSTRUCTION LIFTING TOOLS (FORKLIFTS) 250 KG CAPACITY USING MANUAL TRANSMISSION SYSTEM AND MOTOR

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Abstract

Along the development of technology, the human need tools to simplify the job increases. Besides the function and benefit, at the selection tools also needs consider about economic value. Forklift is one of the heavy equipment tools which are commonly used at the industrial company. In this final project to design a forklift with a simple transmission system, easy to use and more economical. Transmission system that is designed not to use such existing hydraulic most like at the market. The transmission are selected using spur gear and using low-speed motor with a speed of 15 rpm and a torque of 4.5 Nm. Dimensional framework of forklifts planned size: length 1.5 m, width 0.6 meters, hight 1.8 m and maximum lifting high of 1.5 m. Lifting speed is considered constant 1 m/minute and a maximum lifting load of 250 kg. For fork material, selected a High Strength Low Alloy Steel. After doing the calculations, fork and rope are strong enough to lift the maximum load which are determined before.

Keywords : Lifting tools, Material strength, Transmission