QUADCOPTER DESIGN SIMULATION USING SOLIDWORKS SOFTWARE

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ABSTRACT

This thesis represent that the design of quadcopter simulation using Solidworks software. It consists of the design part of the quadcopter and analyzes it using simulation study. Three dimension Computer Aided Design (3DCAD) is use to design detail with two and three dimensional models of physical objects such as mechanical part, buildings and molecules. This software improves the skill and knowledge of designing parts and automation in aviation industry. The quadcopter design need to be achieved in 3DCAD to shorten the construction time, enhance the productivity of the designer, improve the quality and shape of the quadcopter design. Solidworks 3DCAD consist of three sections which are part, assembly and drawing. The quadcopter has simulated using Solidwork softmotion simulation software. The result of simulation study of the part and assembly are presented to demonstrate the quality of the parts in quadcopter.

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

Nowadays, a huge technological change at this age has increased productivity in the aviation industry. For example of technological development in this day and age is production of quadcopter. Quadcopter is the multicopter that lifted with propeller by four rotors. Quadrotor is an emerging Micro Air Vehicle (MAV) that may have unlimited application [1]. From centuries old design, modern quadrotors grown into a small car and agile [2]. After already proved their usefulness as a tool for aerial imaging, new research allows quadrotors to communicate intelligently with other autonomous vehicles, to find an unknown environment, and to move in a dense environment with speed and accuracy. Individually, these advances will enable quadrotors to complete the mission as a long term surveillance, search and rescue operation. However, if all of this combined technology development, will be able to quadrotors advanced autonomous mission currently not possible any other vehicle.

In the early history of flight, quadcopter configuration is seen as a potential solution to solve the problem of on persistent such as in vertical flight, efficiency issue and generate no useful lift. The failures to design the quadcopter at that time had affected the cost, waste time and effort. For present and featured, the built of quadcopter is the most important in design consideration. The design process with the objective of creating a simplistic, low cost, high level of quality, long lasting and robust. Before the presence of quadcopter, the helicopter is widespread use as facilities such as in military, rescue,