UNIVERSITI TEKNOLOGI MARA

DEVELOPMENT OF SEMI AUTOMATIC FAN BLADE CLEANER

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ABSTRACT

A semi-automatic fan blade cleaner is a product that can help society to ease their daily life. Compared with other products, the automatic fan blade that is powered by a DC motor can help to conserve the energy used when cleaning a ceiling fan blade. The purpose of this project is to create a product that is affordable yet beneficial for all ranks of society, especially in house cleaning and safety.

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INTRODUCTION

1.1 Background of Study

A fan blade cleaner is a device that helps to ease the job of fan cleaning. A fan blade cleaner is commonly used in a household to remove dust and dirt that is stuck onto the fan blade. Unfortunately, a normal fan blade cleaner used in a household takes up too much energy. Some households only use handkerchiefs and a stair to clean the blade which takes more energy to climb and clean. This is the reason why this project exists, to create a device that can make it even easier to clean fan blades.

The mechanism in common fan blade cleaner operates manually which uses more energy which is unnecessary. It is equipped with a pole to hold the cleaner, but users will have to move it back and forth manually. It can be tiring to move it back and forth even if it's just cleaning a small item. Some fan blade cleaners use metal as a pole. Although metal is great in terms of strength but the con of using metal is it is heavy. Lightweight metal such as aluminum exists but to hold and move an aluminum pole for a long time will still tire our forearms and shoulders. Aluminum also reacts to air which will cause damage to the pole after a while. Stainless steel can be used but it is expensive, heavy and has a lower strength-to-weight ratio compared to aluminum. It is important to choose the perfect material for the users to conserve energy.

According to previous studies on usability improvement for a fan blade cleaner, this project helps to conserve energy if the cleaner is an automatic cleaner that moves around the blade. The problem is the material used to collect the dust as the dust will be collected in a large amount. Hence, the dust will fall instead of getting stuck on the material used.