

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF
LOW-COST AUTOMATIC
SCREWDRIVER**

YUSUFF BADRISYAH BIN MOHD DIN

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ABSTRACT

This project presents the fabrication and concept of an automatic rechargeable screwdriver that will help many people with their problems to assemble and disassemble things like cupboard, table, chairs etc. Using the method of rotational motion with a DC rotary motor, the screws can be driven to tighten or loosen according to users' command. This project also discusses sustainability of the product where the product's material mainly focused on items that are cheap but usable and also items that are recyclable and reusable. The product also aims for accessibility in all generation of age from young, teenager, adult and also senior citizens are welcomed to use this product. In conclusion, authors discuss about the pros and cons of this product for the sustainability and the main usage and also the flexibility of the product as the tip can be change according to the size of the screws. This project targets so the product can function fully, ease users to tighten and loosen screws with just a flip of a switch.

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Last but not least, this dissertation is inspired by my friends and family, they are the one who gave me the idea to make this project as they always grumble saying they want a tool to assemble cupboard that they order online faster. This project is mainly dedicated to my friends and family and all the people that are involved in my final project.

TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	2
AUTHOR'S DECLARATION	3
ABSTRACT	4
ACKNOWLEDGEMENT	5
TABLE OF CONTENTS	6
LIST OF TABLES	7
LIST OF FIGURES	8
LIST OF ABBREVIATIONS	10
CHAPTER ONE : INTRODUCTION	11
1.1 Background of Study	11
1.2 Problem Statement	12
1.3 Objectives	12
1.4 Scope of Study	13
1.5 Significance of Study	13
CHAPTER TWO : LITERATURE REVIEW	14
2.1 Benchmarking/Comparison with Available Products	14
2.2 Review of Related Manufacturing Process	16
2.3 Patent and Intellectual Properties	19
2.4 Summary of Literature	22
CHAPTER THREE : METHODOLOGY	24
3.1 Overall Process Flow	24
3.2 Detail Drawing	35
3.3 Engineering Calculation and Analysis	40
3.4 Bill of Materials and Costing	48
3.5 Fabrication Process	57
3.6 Functionality of Prototype	67
CHAPTER FOUR : RESULTS AND DISCUSSION	69
4.1 Final Fabricated Prototype	69
4.2 User Manual	70
4.3 Advantages, Disadvantages and Sustainability of Prototype	73
4.4 Prototype Maintenance	75
CHAPTER FIVE : CONCLUSIONS AND RECOMMENDATIONS	79
5.1 Conclusions	79
5.2 Recommendations	79
REFERENCES	80
APPENDICES	82

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Screw drivers are a tool that can tighten and loosen screws that exist in many furniture such as table, chairs, cupboard and many more.

Screw drivers are becoming a basic equipment nowadays, people need screwdrivers as much as people need houses because screws are becoming a basic component in home furniture and appliances. So, from this, as we can conclude from the statement above, screwdrivers' demands are increasing with time. From time to time, we can also see that screws come in many sizes so many types of screwdrivers are required to be produced for different purposes.

We can differ many types of screws with their sizes, if its small then it is most likely to be used in electronics items such as mobile phones, laptops, computers, and many more. Screws with medium size of dimension are most likely to be used in basic items that we handle in life such as cupboards, cabinets, table and chairs and such. And big sized screws are mostly used in parts that undergo hard motion everyday such as engine and tires.

The focus point of my project is to make a portable mini screwdriver that we can bring anywhere and use it whenever we like for the medium sized screws. As we can see medium sized screws are focused on home furniture and appliances, so this project is to ease user to assemble and disassemble them.