

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF
4-WAY NUTS REMOVER**

**MUHAMMAD IRFANHAIKAL BIN IKHMAL
ALBAKRI**

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ABSTRACT

Nowadays, the most important things that every people should have been a car. Then, when we have a car, we need to frequently check the condition of the car. However, what if an emergency happens to the car as example the tire got punctured? We will be stranded at the side of the road, and we need to change the tires. In this case, we need to use a tool in order to change the tires. But what if the tools are not compatible? Especially when opening the nuts of the tires. It will require a lot of forces if using the old T-wrench or Spider wrench. This will be very difficult especially to women or people who have less brute strength. Hence, the main issues right now is to fabricate a tools that can open the nuts of the tires easily by using less strength, more user friendly and also less time taken when changing the tires. So, the main goal of this product is to design a 4 ways nut remover that connected with gear will make removing nuts become easier and faster and to fabricate a 4-ways nuts remover that is strong and have a very good sustainability. This design is believed to be able to open the nuts of the tires easily and use less forces. This design is believed can be user friendly and has a very good sustainability.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

As we know, car is one of the most important things to have in this time right now [1]. And when we have a car, it is important to take care of the car frequently. Every car manufacturer provides tools such as L-wrench and jack [2]. But what happen if there's an emergency happen such as flatten tires and we stranded at the side of the road. In this case, emergency tools are need in order to help the driver. But what happen if the tools are not compatible to use to any people such as, the available tools right now on the market is T-wrench, but this tool required a lot of strong forces in order to used it. What if the driver is a woman or someone else who have less experience in changing tyres by their own or they do not have the strength to do it by their self? So, the tools should be created which is user friendly and easily to use for everybody.

1.2 Problem Statement

The main issues focus on how to fabricate a tool that change their tyres when emergency happen especially helping with less strength used and more easily understand to used when to change the tyres. When changing tyres, first thing to do is to remove the nuts which will be kind of difficult especially for people who have less strength because huge effort is required to open a single nut of a car wheel and also take quite a time to remove one nuts per time. [2]

1.3 Objectives

The main objectives of this project are:

- a) To design a 4-ways nut remover that connected with gear will make removing nuts become easier and faster