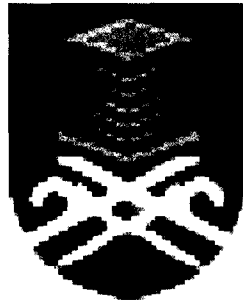


**FINAL YEAR PROJECT REPORT**  
**DIPLOMA OF ENGINEERING (MECHANICAL)**



**FACULTY OF MECHANICAL ENGINEERING**  
**UNIVERSITI TEKNOLOGI MARA (UiTM)**  
**SHAH ALAM**

**A STUDY ON MECHANICAL SAFETY ASPECTS**  
**OF A RIVETED JOINT USED IN A BABY WALKER**

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*“ May Allah s.w.t bless you all “*

## ABSTRACT

This project report is about understanding the analysis on mechanical safety of baby walker. To do this, a couple of fixtures were designed, fabricated, and tested. From the result of the analysis, we can determine how the baby walker structure and rivet failed. By understanding this concept, the student especially Mechanical Engineering student able to apply it on the other types of joints or structures.

To achieve the objective of this project, the students actually have to pass a few steps. Firstly they have to study the theory of baby walker and rivet. This is very important because from this theory the student then will know how to design the fixture, to fabricate and to perform testing successfully.

In this project, the experiment is carried out by using four fixtures. There are self-made fixtures, which have been designed after discussion with our advisor and the lab technician. This made the project more interesting because we fabricated the fixture ourselves and we learned new things about welding principle and practice.

## 1.0 INTRODUCTION

Some products are made of only one component, such as bolts, ball bearings, screws and others. Almost all products however are assembled from components that were manufactured as individual parts. Even relatively simple product consists of at least two different parts joined by various means. For example, motorcycles, automobiles, aircraft and ships , which have numerous components that are assembled and joined so that they can function reliably. A typical automobile has 15,000 components, a Boeing 747-400 aircraft has more than 6 million parts. Which all of them must be assembled by using several joining methods.

One of the common method of joining processes is riveting. This process is also known as mechanical assembly. Mechanical riveting may be preferred over other methods for the following reasons:

- a) Ease of manufacturing.
- b) Ease of assembly and transportation.
- c) Ease of disassembly, maintenance, part replacement or repair.