FINAL YEAR PROJECT REPORT

DIPLOMA OF ENGINEERING

(MECHANICAL)

FACULTY OF MECHANICAL ENGINEERING

UNIVERSITY OF TECHNOLOGY MARA (UiTM)

SHAH ALAM

TOPIC

INCREASING STRENGTH OF AIRCRAFT REPAIRED PARTS

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ACKNOWLEDGEMENT

In the name of **ALLAH**, the most gracious and merciful. We praise Him and seek His noble prophet **Muhamad s.a.w.** First we gift thanks to **ALLAH** who has enabled us to completed this final project in time.

We are honorably grateful to our project supervisor, **Dr. Solomon Darius Gnanaraj** in his instruction completing our project.

Also we are grateful to **Mr. Abu Kassim**, strength material laboratory technician that helped and instructed us in the strength test of the specimens or samples.

Further we grateful to **Mr. Hayub**, metallurgy laboratory technician that instructed us in the preparation and observation of the material microstructure of aluminum alloy.

Lastly, we are honorably grateful especially **lecturers and personnel** in Mechanical Engineering Faculty, UiTM Shah Alam that giving knowledge, help and support along our study in UiTM Shah Alam.

THANK YOU

MASTUNI BIN SAMIRAN

AND

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ABSTRACT

In this project entitle **INCREASING STRENGTH OF AIRCRAFT REPAIRED PARTS**, there are two sub-titles that are of major concern.
The two sub-titles are:

1) Dimpling Process
2) Fiber Glass Repair.

The Dimpling Process is a study that related with material like aluminum alloy and Fiber Glass Repair is a study that related with resin and fiber cloth. All the details about the project are reported.

Further we hope that this report will assist the further students in getting practical information about strengthening aircraft parts.

This report is written in two parts. The first part deals with strength of riveted joint and the second part deals with fiber glass repair.

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CONTENTS PAGES

CONTENTS PART I

1. INTRUDUCTION

CHAPTER 1

INTRODCUTION

1.0 Dimpling.

This a process for indenting thin sheet material (not normally thicker than 16 s.w.g) around a drilled hole to accommodate a countersunk rivet. If correctly preformed, dimpling has a beneficial effect on the strength of a joint, but the method of dimpling must be related to the ductility of the material to prevent overstressing and cracking.

1.1 Requirement

1.1.1 All dimpling shall be performed by skilled dimpling machine operator.

1.1.2 When the Engineering drawing specifies dimpling, neither punch type riveting nor countersinking may be used. When the drawing does not specify, the parts may be made by dimpling, countersinking, or punch, type riveting, provided the requirements of Table B are satisfied.