

UNIVERSITI TEKNOLOGI MARA
SIPAH ALAM



FINAL YEAR PROJECT REPORT
DIPLOMA IN MECHANICAL ENGINEERING
(MANUFACTURING)

FABRICATION OF MOULD FOR RC GLIDER WING
SECTION USING CAD/CAM

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CHAPTER 1

Introduction

Flying a remote control (RC) model craft has gained popularity among the Malaysian public. Generally RC model aircraft can be divided into powered aircraft and glider.

Usually model aircraft is made using balsa woods as the primary material for the fuselage and wing structure. However, composite material have been widely used for the construction of the RC aircraft particularly the gliders and sailplanes. Composite are the best for these model as they also strength to weight ratio is high and its resistance to impact and scrubbing is excellent. When using composite material for the construction of the wing, internal structure is not required. The layer of the composite material are put together to the thickness that is strong enough for design load. The manufacturing technique to build the wing using composite material is molding.

In this project, the students were required to study the various molding technique in manufacturing. Special attention was given to the technique of the molding composite materials to the required shape. Finally the students are required to design and manufacture the mould for a specified wing section of an RC glider.

The objective of the project can be distinctively perceived as follows;

- a) To gain knowledge of the various molding technique.
- b) To learn the technique of the molding composite materials.
- c) To actually design and manufacture a mold that can be used to make a simple wing section using CAD/CAM