

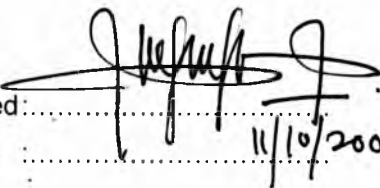


**THE ANALYSIS OF SME MD3 – 160 AICRAFT
WING STRUCTURE**

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"I/We* declared that this thesis is the result of my/our* own work except the ideas and summaries which I/We* have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree.

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ABSTRACT

The topic of this final project is "The Analysis of SME MD3-160 Aircraft Wing Structure". This analysis uses a real model of aircraft structure courtesy of the SME Aviation Sdn. Bhd. which is located at Subang, Selangor Darul Ehsan. This final project focuses more onto the structural analysis compared to the aerodynamic. In order to complete this analysis, several steps have to be done and that include literature review, field visit, theoretical analysis, finite element analysis and result compilation and discussion. In literature review, few books were taken as an example and this step is done in order to strengthen the knowledge of Strength of Material and as an introduction to aerodynamic theory while field visit makes the understandings of aircraft wing structure more comprehensible and enjoyable. The analysis begins with the calculation of aircraft loading in order to find the lift distribution, and bending- moment value. Stress analysis is done next and this analysis is more tedious as it focuses more on the wing structure. The deflection of the wing is found next and the theoretical analysis is hence, completed. The second part of the analysis is the execution of finite element analysis using ANSYS and the comparison of result between the theoretical analysis and finite element analysis is made.

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