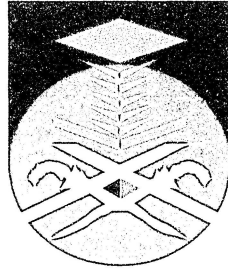


"I declared that this thesis is the results of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree."

Signed:.....
Date : 6 / 12 / 06

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DESIGN OF BLENDED WING BODY (BWB) UNMANNED AERIAL VEHICLE (UAV) ENGINE NACELLE

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ABSTRACT

An engine nacelle is used to enclose the engine in a streamlined housing to improve the aerodynamics of the aircraft, to support and protect the engine and its component. For the preliminary of design the engine nacelle, an attempt to install the engine nacelle on the upper surface of the aircraft has been conducted. But after many problems encountered in designing process of external engine nacelle, it was suggested that the engine nacelle should be installed inside the BWB body. The designing processes were done using CATIA software.

The model was analyzed using CFD software to study the impact of air intake and nozzle to the aerodynamic characteristics of the aircraft. The model was meshed using Gambit as a preprocessing tool before being analyzed with Fluent. Comparisons of aerodynamics characteristics which are lift coefficient, drag coefficient and pitching moment coefficient, pressure contours and Mach number contours were made between BWB model with air intake and nozzle with BWB model without intake and nozzle. From the results, it shows an install engine nacelle to BWB body give an affected to the aerodynamic of aircraft especially the increases of drag coefficient, C_D .

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