



**COMPUTATIONAL FLUID DYNAMIC (CFD) ANALYSIS
OF BLENDED WING BODY (BWB) BASELINE-II
UNMANNED AERIAL VEHICLE (UAV) WITH CANARD
SETTING ANGLE OF 10° AT 0.1MACH NUMBER**

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ABSTRACT

This study investigates the effect of canard on the aerodynamic characteristics of MARA University of Technology's (UiTM) Blended Wing Body (BWB) Baseline-II of Unmanned Aerial Vehicle (UAV) aircraft design. Canard is a small lifting wing located in front of the main wing which is used to improve lift and provide adequate flight stability of the BWB Baseline-II. The implementations of Computational Fluids Dynamics (CFD) have accelerated the aerodynamics predictions of the BWB Baseline-II design conducted at the same conditions with actual flying BWB size at various angles of attack. Lift coefficient (CL), drag coefficient (Co) and pitching moment coefficient (CM) are studied at flight condition of 0.1 Mach number with respect to canard deflection angle of 10° . This project begins with some modification of canard deflection angle of the BWB's CAD model to 10° . The modified model is then imported into CFD software for meshing and simulation processes. The relationship between CL , CD , and CM , visualization of pressure contours, Mach number contours, and airflow, around the aircraft being investigated and analyzed.

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