

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

MPHO NESAMARI

ABSTRACT

A simulation of a bus model dimensions 200 x 50 x 50 mm was conducted using CFD software FLUENT 6.2, in order to investigate the flow around a bus with active drag reduction system. Simulations were carried out for the base model which is the reference point and two other spoiler models A & B. All models were designed using CATIA & GAMBIT, simulations were carried out for different spoiler angles. The spoiler model B proved to be most effective in reducing drag when the angle of the spoiler is 15° . The spoiler model managed to minimize the drag force by 27 %. The active drag reduction system utilized is a spoiler which change angle at different speed (from 0 to 20 m/s angle the spoiler is 5° , and from 20 to 45 m/s angle of the spoiler is 15°).

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