

UNIVERSITI TEKNOLOGI MARA

DUCKTAIL LIFTED SYSTEM

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ABSTRACT

The introduction for Ducktail Lifted System is a figure of spoiler that can be lifted when brake pedal is pressed. The product consists of two layers of the ducktail with my own design. The product use hydraulic and pneumatic system as the main source to ensure the movement of both layer of the ducktail. The problem statement of this projects is local driver tend to feel unstable car when cruising at high speed on highway and require more efforts for instant stop. The objective of this projects is to design a ducktail with two layers that able to deliver the functionality with evergreen design also to fabricate the ducktail design intended low cost materials. The methodology use is based on survey and research. The expected results are able to lift both layers of ducktail when pedal brake and remote is pressed. Also, the ducktail is strong and solid.

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CHAPTER 1

INTRODUCTION

1.0 Background of Study

A ducktail lifted system is a figure of spoiler that can be lifted when brake pedal is pressed. The product consists of two layers of the ducktail with my own design based on my best preferences. The product using hydraulic and pneumatic system as the main source to ensure the movement of both layer of the ducktail.

The second layer of the ducktail can be rotate about 90° when the by using remote. The difference compared to the first layer is this can be lifted without pressing the brake pedal. Besides of relating it with aerodynamic, its benefits user to enhance the look of the vehicle when it is parked. This could be explained in the problem statement where currently, the vehicle's owner could not simply adjust the position or height of their ducktail or spoiler. Thus, the aesthetic of the vehicle could be improved by apply the ducktail to the vehicle.[2]

There are several benefits of using ducktail lifted system. Firstly, it helps to stabilize the vehicle during high speed. Also, it enables to counter undesirable air flow around the vehicle known as eddies or turbulence. As a result, the pressure drag reduces and it also improves handling characteristics by enhancing down force and thus traction.

Some researchers have found marginal reduction in drag also. However, the benefits of increased down force and road traction should offset the increment in drag. Moreover, the spoiler does its function to improve braking performance at higher speeds. [3]

The main purpose of this project is to design and fabricate the most suitable and efficient figure of a spoiler which is a ducktail. This project is targeted mainly to the car vehicle owner to be use on the road and track.