

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF
GO-KART FRONT SUSPENSION
SYSTEM**

MUHAMMAD IRFAN BIN SYAHRIZA

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ABSTRACT

Suspension is a system that are in an automotive vehicle. It is a crucial system because without it the car can't properly function. It acts like a dampening for rough rides while maintaining its performance through handling by keeping all tires always in contact with the road. With that being said, this project requires a working front suspension for a go-kart. The most suitable type of suspension will be selected to integrate into the frame of the go-kart. By doing mock-ups and testing each type of suspension, a decision will be made. As a result, the thorough research will give a great performance to the go-kart.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Suspension is a mechanical system that connects the wheel to the frame of a vehicle. By connecting both, it will allow a relative motion between them. It is designed to support the weight of both the vehicle itself and the passenger riding it by evenly distributing it on all wheels. Moreover, it also serves as an absorption and dampening shocks and vibrations caused by irregular roads, maintaining contact between tires and the road surface itself, and control body roll, pitch, and yaw of the vehicle for stability and handling. It also enhances comfort and ride quality by isolating the cabin from any outside noise from the road.

There are a lot of components that make up the suspension system that work together to fulfil its function. For example, springs and its purpose as to store and release energy when compressed or extended and supporting the vehicle weight itself. Dampers, also known as shock absorbers. It dissipates the energy that is stored in the springs and excessive oscillations and bouncing at minimum. Furthermore, control arms or wishbones act as a connector between the wheels and the frame and enable vertical and horizontal movement.