UNIVERSITI TEKNOLOGI MARA

DEVELOPMENT OF AN EDUCATIONAL 5-SPEED GEARBOX MECHANISM

MUHAMMAD KHAIRULAMRI BIN ABD RAHMAN

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ABSTRACT

This project is presenting a prototype that can attract all motorcar lovers to learn a gearbox mechanism. By using the end product, it will provide an exciting experience when get the knowledge on how a vehicle moving forward and reverse. This project discusses about on how gears and shafts are rotating to produce the power output to the drive train. In conclusion, this prototype will conduct new knowledge for the beginner on how gearbox is well function before it has been damaged and be cheat by mechanics.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Study

The project that I would deliver is a development of an educational 5-speed gearbox prototype. It is an initiative for people that want to learn the best way on how the gearbox is work. Furthermore, most of our machines nowadays need gearbox to step up the power. The power will come out from gearbox that invented strongly for heavy duty in several fields of industry. As all machine's growth, engineers are inventorying some ideas to enhance the power of gearbox that have already made. Hence, young generations would have to create new specifications and fresh design of gearbox that are efficiently use in all fields that are related.

The 5-speed gearbox is actually a transmission or a system that has gears of five forward gear ratios. It is commonly used in automotive industry as vehicles want to moving forward all the time that bringing us to the destination. This project is making for showing the mechanism of a gearbox. It would probably having a fun learning for all level and industrial trainers that love with the vehicle like a car that used gearbox inside. The size that I will make is not a big one, but surely it is suitable for all levels and industrial training practitioners to hold it on their hands. Despite that, I have to invent a small 5-speed gearbox rather that I get a huge one that used in a car that is suitable for youngsters to apply in life but for the kid it a must being supervised by an adult. From all above, a small gearbox would make better experience for all generations to hold and learn by themselves on how gears are work in gearbox.

The issues of this project would be the materials that will be used. In order to make a project, safety must be priority to ensure that target consumer is well safe when used this end product. This project will come out with materials that are safer such as plastic or rubber with the higher quality. Hence, it would not take the materials that are heavy and sharp just like the origin used in vehicles. For example, the steel is sharper at the edges and it is not preferable for educational purposes. As a precaution, I might invent a gearbox that is all levels friendly used.