



**SEMI AUTOMATIC TRANSMISSION
USING
MOTOR WIPER**

**MOHD NAZARI B. MOHD DAKIR
(97327832)**

**MOHD NAZROL B. MOKHTAR
(97327857)**

**AHMAD ZAKI B. ABDUL LATIB
(97327560)**

**DIPLOMA IN MECHANICAL ENGINEERING
(AUTOMOTIVE)
MARA UNIVERSITY OF TECHNOLOGY
SHAH ALAM**

MAY 2001

ACKNOWLEDGEMENT

We would like to thank to ALLAH s.w.t for his blessing, we could complete this final project successfully. So many times, expenses and energy had been concentrated to overcome all the challenges in finishing this project. In order to complete this project, it required the involvement of individual, personnel and also co-operation from the FACULTY OF ENGINEERING staffs. And here, we would like to take this chance to thank them all. First of all, we would like to express our gratitude to our project advisor, **En. Suhaim Sapari** for his concerned, advice and guidance for making this project success.

Last but not least, we would like to extend our heartiest thank to our parents, classmates and all other individual who has given assistance in terms of effort, support and ideas, directly or indirectly in completing our project.

May ALLAH s.w.t bless them. Amin.

Thank you.

TABLE OF CONTENTS

ACKNOWLEDGEMENT.....	i
TABLE OF CONTENTS.....	ii
 CHAPTER 1: INTRODUCTION	
1.1 Introduction.....	1
1.2 Introduction of Wiper Motors.....	2
1.3 Permanent Magnet Wiper Circuit.....	3
1.4 Electromagnetic Field Wiper.....	4
 CHAPTER 2: OPERATION	
2.1 Wiper Operation.....	6
2.1.1 Normal Operation.....	7
2.1.2 High Speed Operation.....	8
2.1.3 Wiper Off, Pulley Not In The Parked Position.....	9
2.1.4 Wiper Off, Pulley In The Parked Position.....	10
2.2 Earlier Models	
2.2.1 Normal Operation.....	11
2.2.2 Wiper Off, Pulley Not In The Park Position.....	12
2.2.3 Wiper Switch Off, Wiper In Park Position.....	13
2.3 Emergency Switch Replacement.....	14

2.4 Trouble Shooting	
2.4.1 Wiper Don't Work At All.....	15
2.4.2 Wiper Work But Won't Park.....	17
2.5 Trouble Shooting For Earlier Model	
2.5.1 Wiper Don't Work At All.....	18
2.5.2 Wiper Work But Won't Park.....	19

CHAPTER 3: DESIGN THE MODEL

3.1 Model Operation.....	20
3.2 Model Drawing in Orthographic.....	21
3.3 Model Drawing in 2D.....	22
3.4 Model Drawing in Product Assembly.....	23
3.5 Model Drawing in Movement.....	24
3.6 Calculation.....	26

CHAPTER 4: CONCLUSIONS

4.1 Conclusions And Comments.....	30
-----------------------------------	----

REFERENCES

1.1 INTRODUCTION

The use of motor wiper in a vehicle is a must especially in the rain condition, but the function of motor wiper can be range to other application. The need to study the properties and characteristic of motor wiper has become a very important subject in order to get the new usage of this type of technology. This semi-automatic transmission project using motor wiper is because it characteristic that move in 2 steps. Firstly it moves forward or in one direction and then it will move back to their original place. The only motor that operates in this characteristic in the vehicle is motor wiper. The selection however included the motor wiper can easily get from junkyard shop or “kedai potong kereta” in affordable price. There are so many model in variable size.

The objectives of completing this project is:

- I. To push the clutch pedal in manual transmission vehicle without using foot.
- II. To make the driving more easily especially for women.
- III. Very suitable for those were driven in a traffic jam- no more leg cram.
- IV. Study the strength of motor wiper when pulling the clutch cable or clutch pump.

All the findings will be concluded in the last section of this report.