

FINAL PROJECT REPORT

TOPIC

FABRICATION OF THE SUSPENSION TEST SET UP
DIPLOMA IN MECHANICAL ENGINEERING (AUTOMOTIVE)
FACULTY OF MECHANICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
SHAH ALAM
SELANGOR DARUL EHSAN



PREPARED BY :

MOHD ZAKI BIN SANJON

97188878

MOHD SHAHAR BIN ABDUL AZIZ

97189418

KAMARUL FIQRI BIN AHMAD

97059857

PROJECT ADVISOR

DR. SOLOMON DARIUS GNANARAJ

APRIL 2000

FINAL PROJECT REPORT

TOPIC

FABRICATION OF THE SUSPENSION TEST SET UP

DIPLOMA IN MECHANICAL ENGINEERING (AUTOMOTIVE)

FACULTY OF MECHANICAL ENGINEERING

UNIVERSITI TEKNOLOGI MARA

SHAHALAM

SELANGOR DARUL EHSAN



PREPARED BY:

MOHD ZAKI BIN BAHROM

97198073

MOHD SHAHAR BIN ABDUL AZIZ

97130410

KAMARUL FIQRI BIN AHMAD

97059857

PROJECT ADVISOR

DR. SOLOMON DARIUS GNANARAJ

APRIL 2000

ACKNOWLEDGEMENT

Praise and grace to ALLAH s.w.t. Creator of the universe for under His command, we manage to complete our final project. This final project (KM 12) is prerequisite in attaining a Diploma in Mechanical Engineering (Automotive) from the Mechanical Engineering Faculty, Universiti Teknologi Mara.

In completing this project, we are totally indebted to our respected lecturers, Technicians of Faculty of Mechanical Engineering and our fellow friends. Their contributions were vital and very helpful.

We are grateful to Dr. Solomon Darius Gnanaraj, our project advisor for demonstrating faith and patience in our capability to carry out this project. We managed to go through all the difficulties under his guidance, advice, information and knowledge and we will not be able to complete the project without his supervision. Special

ABSTRACT

The title of our final project is "Fabrication of a Suspension Test Set up". The purpose of this study shall be concerning with the uses of different shock absorbers in motorcycle suspension system.

Generally, in this project we fabricated the test set-up for testing suspension systems of motorcycles with different shock absorbers and loads while they are in operation.

In future, students working in this test set-up will be able to find the performance of shock absorber by using different springs and different oils. By this research, we can know the ability of shock absorber by following the duration of uses and how much capacity of load can loading at motorcycle.

CONTENTS

Acknowledgement y	i
Abstract ^	iv
Contents	vi

Chapter 1 - Introduction

1.1. General Introduction /	1
1.2. Types of Suspensions	2
1.2.1. Coil spring suspensions -	2
1.2.2. Leaf spring suspensions	10
1.2.2. Rubber spring suspensions --	17
1.2.3. Air spring suspensions	20
1.2.5. Shock absorbers /-	24
1.3. Working Principles of Shock Absorber	28
1.4. Scope of Work	29