



AUTOMOBILE AIR-CONDITIONING TEACHING KIT

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ABSTRACT

In this project, our main objective is to produce a training rig for the following automobile air-conditioning systems; viz, the R-12 and R-134a system as a teaching kit.

Besides that, we have to learn about the installation and inspection both of these systems. On this project, we started with disassembling and overhauling the R-12 and R-134a system with the right tools. Servicing the parts will give us knowledge about the parts, their functions, and their designs.

Reassembling back all the parts and components is one of the more important aspects to be aware of. One has to prevent carelessness in putting back all the parts. The air-conditioning system can be mounted on the frame and will be tested for its performance.

Lastly, a design of the rig to run under both systems has been carried out. Construction of the prototype rig costs approximately RM 6000 and took one year to design and fabricate. The completed rig has been assembled with a panel board showing the principle operation of these systems which are mounted on the frame, and an operation manual which included a description on servicing, overhauling and trouble diagnosis needs of these systems has been produced. The benefits of this project are that we learn not only its operation, but the servicing, overhauling and inspection of the R-12 and R-134a systems as well.

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CHAPTER I

INTRODUCTION

1.1 General Introduction on Air-Conditioning

Twelve thousand years ago, people start to discover refrigeration and air-conditioning. They start with simple form of system and use it for the purpose of comforting their lives. Although these early systems were crude by today's standards, they serve the same purpose as modern units.

Many aspects of modern life became possible only after air-conditioning system were developed from year to year. It then makes it possible to change the condition of the air in the enclosed area. Since modern man spends most of his life in enclosed area, air-conditioning is actually more important and can produce a greater influence on man than outdoor weather.