



**DIPLOMA IN MECHANICAL ENGG. (AEROSPACE)**

**PRESENTED TO:**

**FACULTY OF MECHANICAL ENGINEERING  
MARA UNIVERSITY OF TECHNOLOGY (UITM)**

**40450 SHAH ALAM**

**SELANGOR D.E.**

**MAINTENANCE MANAGEMENT OF AIRCRAFT COMPONENT IN  
COMPONENT OVERHAUL DEPARTMENT OF  
MASA SDN.BHD**

**PRESENTED BY:**

**MOHD.NOR AZMAN BIN HAJI MD.ZIN                      97195179                      KM 13**

**ANUAR BIN ABDULLAH HASHIM                      97195035                      KM 13**

**SUPERVISED BY:**

**PUAN FARIDAH BINTI MD.TAIB**

## **Acknowledgement**

We wish to express our sincere thanks and appreciation to all those who have contributed and gave their unlimited help in some way or other during the duration of this research work and writing this report.

We especially grateful to:

1. Ir.Dr.Mohamad Nor Bin Berhan, Deputy Dean and Lecturer in Faculty of Mechanical Engineering.
2. En. Zaidi Bin Mohammad Zain, Lecturer and Project Adviser in Faculty of Mechanical Engineering.
3. Puan Che Faridah binti Md. Taib, Lecturer and Project Adviser in Faculty of Mechanical Engineering.
4. En. Ahmad Izuddin Ab. Rahim, Mechanical Workshop Superintendent of Component Overhaul Department.
5. En. Utama Bin Abdullah, Production Support Section Superintendent of Component Overhaul Department.
6. En. Azmi bin Omar, Production Support Section Executive of Component Overhaul Department.
7. En. Azmi Bin Bonyamin, Project Development Executive of Component Overhaul Department.
8. Puan Norimah Binti Ismail, Workshop Planner of Production Support Section for their valuable helps, constructive comments and guidance in completing the project. We also wish to thank Puan Zainah Binti Md Saad who has spent a lot of her time for typing and checking the report.

## **OBJECTIVE**

The main objectives of the project are to study and understand the maintenance management of aircraft component in Component Overhaul Department of MASA SDN.BHD.

The study starts from the component being removed from an aircraft, sent into workshop for rectification and go back to aircraft for reinstallation or from third party.

Apart from maintenance activities involved, the focus also been given to understand the type of system being used and how the work data are recorded thus, identify the weaknesses of the existing system and come out with the suggestion for improvement.

The information pertaining the maintenance activities and related procedures are obtained from the legal documents available in the department, discussion with Production Support Section, Project Development Executives, Workshop Foremen and Workshop Production Planner.

## **Preface**

Over the past twenty years aircraft maintenance has changed more so than other maintenance management discipline. The changes are due to a huge increase in the number of aircraft types which must be maintained throughout the world, much more complex designs, new maintenance techniques and changing views of maintenance organization and responsibilities.

Aircraft maintenance is also responding to changing expectations. These include a rapidly growing awareness of the extent to which component failures affects safety and other consequences the environment, a growing awareness of the connection between maintenance and product quality and increasing pressure to achieve high plant availability and to contain costs.

The very nature of aviation-high-speed machines carrying people high above ground-spurs, a tremendous emphasis on preventive maintenance. Aircraft manufacturer anticipate potential equipment or component when they design aircraft-building in layers of redundant, backup safety systems for all key airplane features. Airlines, aircraft manufacturers and government regulators jointly work out detailed, schedule maintenance programs designed to avoid and catch problems before they become serious enough to jeopardized an aircraft's ability to fly safely. In addition, flight crews and on board computer system monitor aircraft performance for any problems, and those problems are to be rectified before further flight.

MAS Aerotechnologies Sdn.Bhd. basically practices two basic types of maintenance and unscheduled work focused on correcting faults that have occurred. For scheduled inspections, the government regulators require increasingly detailed work, some of it tied to a plane's age, its flying time and the number of flight it has made. At each step in the process, mechanics probe deeper and deeper into aircraft, taking apart more and more components for closer inspections. For several times a day airline personnel do a visual "Walk Around" checking for fuel leaks, cracks, dents or other surface defects. Every three to five days they inspect flight control (e.g. flaps and rudders), landing gear fluid levels, oxygen systems and emergency equipment are thoroughly inspected. As an added layer of protection, government regulators monitor airline maintenance activities to ensure compliance. Regulators can impose heavy fines or even ground an airline for violations.

There are obvious advantages and disadvantages with all of the maintenance management approaches and it would be wrong to recommend any as the best for all business. For particular applications within particular businesses it may be that one approach the most cost effective and then that should be employed. The achievement of "best practice" can be achieved by the installation of an appropriate maintenance system.