

Development of Aircraft Maintenance Management for Police Aviation Division

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Abstract---The objectives of this research were to; 1) study the aircraft maintenance management system of the Police Aviation Division, 2) develop an operational manual for aircraft maintenance management according to international standards, and 3) study the attitudes towards the use of the aircraft maintenance management operations manual of the Police Aviation Division. The sequence of operation from the study of documents and aircraft maintenance management theory. Then, interviews were conducted to gather information and use the information to develop an aircraft maintenance management operation manual into 3 steps: aircraft maintenance planning and approval procedures, aircraft maintenance operation procedures, and procedures after aircraft maintenance work and report on air maintenance results

The results showed that the development of the aircraft maintenance management system of the Police Aviation Division has three steps, five main roles; 1) aircraft maintenance planning, 2) resource management, 3) aircraft maintenance quality control system, 4) tool management, and aircraft spare parts, and 5) aircraft maintenance supervisor's report. It takes a form of communication within the organization from the bottom up. In addition, aircraft technicians had a good attitude towards using the operating manual in the aircraft maintenance inspection of the Police Aviation Division at a high level.

Index Terms– *Development, Aircraft Maintenance, Management, Police Aviation Division*

INTRODUCTION

Police Aviation Division is the unit that supports aircraft for the mission of the Royal Thai Police and works with other government agencies to support the aircraft. It is responsible for flying as a royal vehicle and providing security for the royal family. Therefore, maintaining the aircraft's operational efficiency according to international standards is essential for safe flight operations, maintaining performance, durability, and always being ready to use. As well as, aircraft used for operations or use. As the hours of use increase, it will have to wear and deteriorate with use. Therefore, it is necessary to maintain the aircraft engine for the longest possible normal operation and maximum safety [1].

Aircraft maintenance procedures must be strictly by aircraft engineering principles, aircraft maintenance must be strictly adhered to, such as inspection and service. Crash fix pre-flight inspection Periodic repairs, etc., are all caused by engineering principles. Persons responsible for all levels in the aircraft maintenance system must organize the work system and those responsible for all processes.

From the past problems, it was found that the aircraft maintenance process did not have a clear maintenance plan. Consequently, the aircraft lacked constant maintenance. As a result, no maintenance resources are allocated, causing misunderstanding gaps between departments.

For this reason, Police Aviation Division has to develop an aircraft maintenance management system including standard aircraft maintenance procedures. To drive all operations to work systematically and with

international standards. This affects the development of personnel to be professional, able to strengthen the Police Aviation Division to achieve further results.

PURPOSES OF THE STUDY

- 1) To study the aircraft maintenance management system of the Police Aviation Division.
- 2) To develop an operational manual for aircraft maintenance management according to international standards.
- 3) To study the attitudes towards the use of the aircraft maintenance management operations manual of the Police Aviation Division.

METHODOLOGY

This research is quantitative and qualitative. The objective is to develop a system for aircraft maintenance management of the Police Aviation Division to have a system and international standards. which collect information from documents and interview information from executives and have experience in aircraft maintenance work of the Police Aviation Division, 30 people from 23 Airborne Police units. Then create and inspect the aircraft maintenance management operations manual by considering the suitability of 9 experts and people related to aircraft maintenance. The results of the consideration revealed that the operating manual was appropriate at a high level. After obtaining an appropriate operational manual, it can be used to study the attitude towards the use of the aircraft maintenance management operations manual for future use. The research process is divided into 3 steps as shown in Fig. 1.

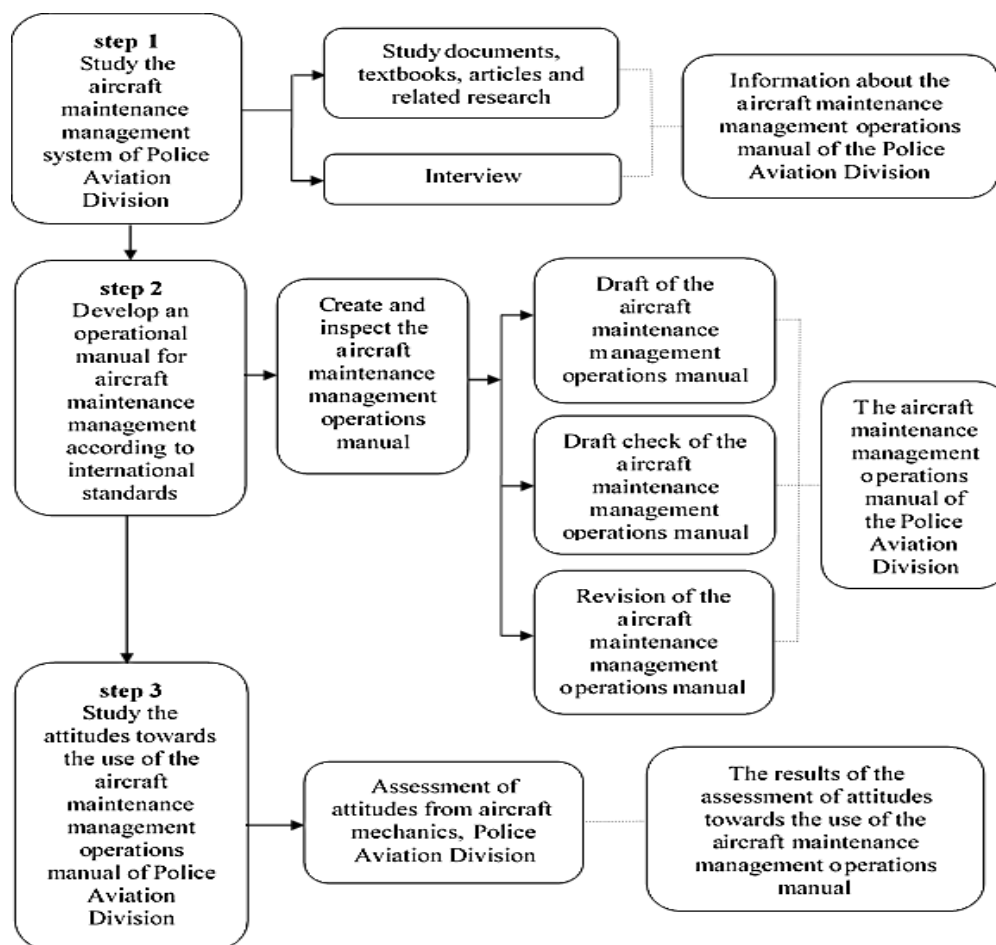


Fig. 1 Operation procedure

RESULTS AND DISCUSSION

A. The results of the analysis and interview of the aircraft maintenance management system

The results of analysis from documents, books, manuals, textbooks about aircraft maintenance standards of the Police Aviation Division consist of 3 steps:

1. Aircraft maintenance planning and approval procedures
2. Aircraft maintenance operation procedures
3. Procedures after aircraft maintenance work and report on air maintenance results

Aircraft maintenance standards of the Police Aviation Division consist of 5 main roles:

1. Aircraft maintenance planning
2. Resource management
3. Aircraft maintenance quality control system
4. Tool management and aircraft spare parts
5. Aircraft maintenance supervisor's report

B. The results of the development of the aircraft maintenance management operations manual of the Police Aviation Division

Developing an operational manual takes a form of communication within the organization from the bottom up. This brings maintenance procedures according to international standards and aircraft maintenance standards of the Police Aviation Division to have clear operations as shown in Fig. 2.

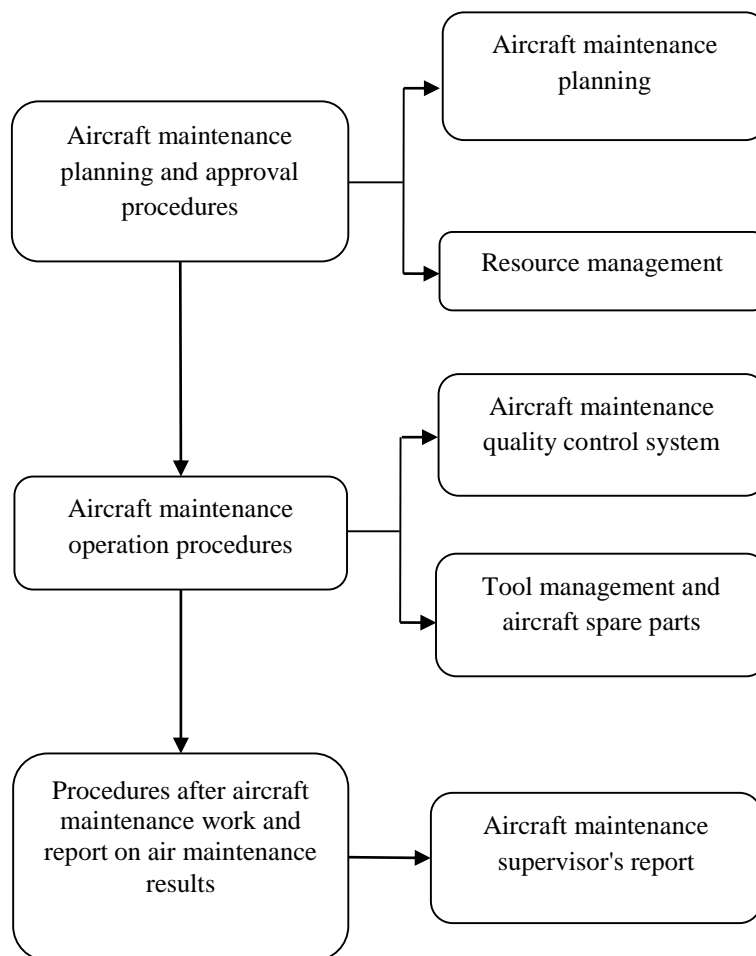


Fig. 2 Aircraft maintenance management system of the Police Aviation Division

C. The results of the study on the attitudes toward the use of the aircraft maintenance management operations manual of the Police Aviation Division

In this phase, the attitudes towards the use of the aircraft maintenance management operations manual were evaluated by aircraft technicians. These assessments were presented in Table 1. As mentioned in this table, the satisfaction of aircraft technicians was at a good level

Table 1. The attitudes towards the use of the aircraft maintenance management operations manual

Detail	\bar{x}	S. D.	Level
1 .The operating manual is extremely important in the operation	4.35	0.66	good
2 .An operational manual helps to develop a body of knowledge in aircraft maintenance	4.16	0.69	good
3 .Operation manual affects future work	4.29	0.64	good
4 .The operation manual provides clear procedures for maintenance operations	4.35	0.66	good
5 .Operation manuals are easy to learn	4.71	0.53	better
6 .Operation manual can be used to work	4.42	0.56	good
7 .Operational manuals can bring creativity to work	4.48	0.57	good
8 .Operation manual gives confidence in action	4.42	0.70	good
9 .Police have increased confidence in aircraft maintenance management operations Manual	4.58	0.62	better
10 .The police have agreed to the use of the aircraft maintenance management operations Manual in its work	4.55	0.66	better
Total Average	4.43	0.66	good

CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

This paper has presented the development of aircraft maintenance management for Police Aviation Division to help aircraft maintenance operations meet international standards that can be used to manage the requirements, rules, and regulations of the Civil Aviation Authority. It starts with planning for the use of resources or key factors in the aircraft maintenance process [2]. Consistent with the introduction of the aircraft maintenance management operations manual, which is an important component of the aircraft maintenance operations of the Police Aviation Division, created to cover the aircraft maintenance operations of the Police Aviation Division [3], [4], [5], [6]. This makes the aircraft maintenance management operations manual of the Royal Thai Air Force easy to learn, making them more confident. Users bring the Air Force Aviation aircraft maintenance management operations manual to work. and have confidence in implementing, resulting in the developed manual that is useful and can be applied to departments [7].

B. Recommendations

It is suggested that the findings from the study should develop a model information system for the aircraft maintenance management operations manual of the Police Aviation Division to continually develop skills.

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