



GUIDANCE MATERIAL FOR DEMONSTRATION OF 6/24 MONTHS MAINTENANCE EXPERIENCE

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ABBREVIATIONS

CAAT	The Civil Aviation Authority of Thailand
C/S	Certifying Staff
GM	Guidance Material
MOE	Maintenance Organisation Exposition
S/S	Base Maintenance Support Staff
TCAR	Thailand Civil Aviation Regulation

0 INTRODUCTION

0.1 Scope and Applicability

The Civil Aviation Authority of Thailand (CAAT) is the Competent Authority for maintenance organisations¹ that are involved in the maintenance of Thai registered aircraft and components intended for fitment thereto as established by TCAR AIR Part-145.A.1 General. CAAT is therefore responsible for the final approval of these maintenance organisations and for establishing procedures detailing how TCAR AIR Part-145 applications and approvals are managed.

This Guidance Material (GM) is applicable to TCAR AIR Part-145 applicants and TCAR AIR Part-145 maintenance organisations regardless of whether their principal place of business is located within Thailand or internationally. The provisions of this GM are complementary to the maintenance organisation certification requirements detailed in TCAR AIR Part-145 and do not supersede or replace any associated regulatory requirements.

0.2 Purpose

The purpose of this GM is to provide guidance on the key elements that must be considered as minimum requirements for compliance with TCAR AIR Part-145. Specifically, it addresses the establishment of procedures by maintenance organisations to ensure that all Certifying Staff (C/S) and base maintenance Support Staff (S/S) acquire at least six months of relevant aircraft or component maintenance experience within any consecutive two-year period.

Note: Certifying Staff means aircraft, engine, component and NDT C/S

0.3 Associated Instructions

CAAT has developed associated provisions (guidance, forms, checklists and templates) that detail specific matters, which need to be considered as an integral part of this GM. This information is available on the CAAT website (www.caat.or.th)

0.4 Communication

All documents and correspondence between the maintenance organisation and CAAT should be in English. The official e-mail is air-amo@caat.or.th.

0.5 References

- Air Navigation Act B.E. 2497
- Regulations of The Civil Aviation Board No.77 on the Qualifications and Privileges of Applicants for Aircraft Engineers
- Requirements of the Civil Aviation Authority of Thailand No.2 on Repair Station Certificate
- Requirements of the Civil Aviation Authority of Thailand No.5 on Foreign Repair Station Certificate

¹The terms "Maintenance Organisations" and "Repair Stations" should be read interchangeably in this Guidance Material.

- Requirements of the Civil Aviation Authority of Thailand No.40 on Foreign Repair Station Certificate
- Thailand Civil Aviation Regulation on Repair Station Certificate Requirements (TCAR AIR PART-145)
- Acceptable Means of Compliance to Thailand Civil Aviation Regulation on Repair Station Certificate Requirements (AMC to TCAR AIR Part-145)
- Thailand Civil Aviation Regulation - Personnel Licensing Part Aircraft Maintenance Engineer Licence (TCAR PEL Part-66)

1 REQUIREMENTS

1.1 Applicable requirement 145.A.35 (c)

The maintenance organisation must ensure that all C/S and S/S are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two-year period.

Note: "Involved in actual relevant aircraft or component maintenance" means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorisation or has actually carried out maintenance on at least some of the aircraft type or aircraft group systems specified in the particular certification authorisation.

1.2 Maintenance Organisation Exposition

A maintenance organisation, is required to detail in MOE Chapter 3.9 (refer to CAAT-GM-AIR-501 Maintenance Organisation Exposition), a procedure describing how the C/S and S/S must demonstrate compliance with the above requirement and how the control of this requirement is ensured.

This procedure must be:

- established for issuing both an initial and renewal of an individual TCAR AIR Part-145 C/S-S/S individual authorization
- met by any holder of a TCAR AIR Part-145 C/S-S/S individual authorisation issued under any rating, as applicable depending on the scope of approval held by the maintenance organisation and in particular for:
 - o A rating (A1, A2, A3 or A4), aircraft C/S and/or S/S
 - o B rating (B1, B2 or B3), engines, APU C/S
 - o C rating (from C1 to C22), components C/S
 - o D1 rating (any NDT method), specialised services C/S
- compliant with the duration and nature of experience criteria detailed below

The terms of each license category should be read interchangeably in this GM as follows:

- Category A = C/S holds a valid license issued in accordance with TCAR PEL Part-66 or RCAB No.77 Article 8 A.1.
- Category B1 = C/S holds a valid license issued in accordance with TCAR PEL Part-66 or RCAB No.77 Article 8 A.1.

- Category B2 = C/S holds a valid license issued in accordance with TCAR PEL Part-66 or RCAB No.77 Article 8 A.1, A.2 and A.3.
- Category B3 = C/S holds a valid license issued in accordance with TCAR PEL Part-66 or RCAB No.77 Article 8 A.1.
- Category C = C/S holds a valid license issued in accordance with TCAR PEL Part-66 or RCAB No.77 Article 8 A.1.

Note: An Aircraft Maintenance Engineering License issued in accordance with RCAB No.77 will remain valid until December 2027.

2 DEFINITION OF EXPERIENCE

The 6 months of maintenance experience within a two-year period consists of two key elements: **duration** and **nature** of the experience. The specific requirements for these elements may vary based on factors such as the size and complexity of the aircraft, engine, component, type of operation, and maintenance activities.

Experience acquired and recorded on a specific aircraft, component, engine, or APU type may also be used to demonstrate experience on a similar type. When a TCAR AIR Part-145 AMO intends to apply the "similar aircraft, component, engine, APU" privilege to meet the 6 month experience requirement within 24 months, MOE Chapter 3.9 must include, as applicable, definitions of similar aircraft, engines, components, and APU types relevant to the maintenance organisation's scope of work. For further guidance, refer to CAAT-GM-AIR-501 Maintenance Organisation Exposition.

Note: Two aircraft can be considered similar if they share comparable technology, construction, and systems. This means they are equivalently equipped with the following, as applicable to the license category:

- Propulsion systems: Piston, turboprop, turbofan, turboshaft, jet engine or push propellers
- Flight control systems: Only mechanical controls, hydromechanically powered controls or electromechanically powered controls
- Avionic systems: Analogue systems or digital systems
- Structure: Manufactured of metal, composite or wood

The experience must be gained in a TCAR AIR Part-145 AMO. However, experience gained on a similar aircraft, engine, component technology in a non-TCAR AIR Part-145 AMO environment may be used.

2.1 Duration

C/S and S/S must demonstrate that they have acquired within a maintenance organisation, in any consecutive 2-year period:

- 6 months working with the same maintenance organisation, or
- 6 months split up into different blocks, working within the same or different maintenance organisations

2.2 Nature

C/S and S/S must demonstrate maintenance **activity** performed (and/or supervised and/or released to service), within an approved maintenance organisation, on a comprehensive combination of different **tasks types** (i.e., servicing, inspection, troubleshooting, repairing, modifying, removal, installation, etc.).

3 ACCEPTABLE EXPERIENCE

3.1 Duration

To meet the duration requirement, a minimum of 180 maintenance tasks performed on different dates within a 2 year period must be recorded. However, this alone does not necessarily fulfill the nature of experience requirement, which must meet the criteria outlined in the following section.

Alternatively, the 180-task requirement may be replaced with 100 working days of maintenance experience in accordance with the privileges. Each recorded day should represent a full working day, which for example means for base maintenance activities typically 7 to 8 hours per day. The duration should be documented in days or half-days.

Note: An experience Logbook record example is provided in **Appendix 1**

A person may simultaneously hold one or more TCAR AIR Part-145 C/S-S/S individual authorisations (e.g., a B1 aircraft C/S authorization for three different aircraft types or C6 and C14 C/S authorizations for different component P/Ns). Regardless of the number or type of authorisations held, the person must record a minimum of 180 tasks or 100 working days to meet the experience requirement.

For any Ax, Bx, Cx, D1 rating, a maximum of 20% of the required experience duration may be replaced by the following activities when relevant to the scope of the TCAR AIR Part-145 C/S-S/S individual authorisation:

- Maintenance training as an instructor or assessor
- Maintenance technical support or engineering
- Maintenance management or planning

Recording 180 tasks or 100 working days only within the first year of the two-year period is not acceptable. The experience must be distributed throughout the period to prevent extended gaps without maintenance activity.

To ensure compliance with these requirements, the maintenance organisation's compliance monitoring system must issue a document or maintain an electronic system that records and summarizes **the number of completed tasks (or working days) for each C/S and S/S**.

Note: A summarised record example is provided in **Appendix 2**

3.2 Nature

The activities considered relevant for maintenance experience, as applicable to the TCAR AIR Part-145 C/S-S/S individual authorisation held, are functional and operational tests, service and ground handling, removal and installation, minimum equipment list, trouble shooting, modification, repair and inspection.

The tasks recorded need to be representative of the nature of the experience by:

- being related to a combination of activities which is appropriate to the individual authorisation held (only records of service and ground handling for an aircraft B1 C/S is not acceptable, etc.)
- being representative of each of the TCAR AIR Part-145 C/S-S/S individual authorisations held according to the criteria stated in the following section.
- being not limited to simple tasks (i.e. a bulb replacement for an aircraft B2 C/S or wheel exchange for an aircraft B1 C/S, standardisation of equipment or system performance checks for NDT C/S etc.).

In addition, having recorded a majority of identical tasks or tasks not covering the overall individual authorisation privileges cannot be considered as acceptable. For instance, a Component C/S authorised to release under the C14 rating wheels, brakes and landing gears, should demonstrate experience on wheels, brakes and landing gears to keep the full C14 scope of authorisation

In order to demonstrate compliance with the above requirements, the maintenance organisation's quality system is required to issue a document or to have an electronic system in place (refer to section 4.1) where the **type of activity and tasks** must be summarised and recorded for each C/S and S/S.

3.2.1 Aircraft C/S and S/S

The following specific criteria, shall be considered to identify an acceptable nature of experience:

Specific Criteria	Acceptable Nature of Experience
Category A	The experience must include exercising the privileges, by means of performing tasks related to the authorisation (held or intended to be granted) on at least one aircraft type for each subcategory (i.e. A1, A2, A3, A4). This means tasks as mentioned in AMC1 145.A.30 (g), including servicing, component changes and simple defect rectifications.
Category B1, B2 and B3, and for every aircraft type rating included in the authorisation (held or intended to be granted)	The experience must be on that particular aircraft or on a similar aircraft within the same subcategory (i.e., B1.1, B1.2, B1.3, B1.4). For Category B2 - In order to ensure the experience is representative of the B2 qualification when granting an initial authorisation to B2 category, only the avionics or electrical tasks that cannot be done by a B1 (e.g. replacing bulbs and lights) should be recorded as B2 .
Category C	The experience must cover at least one of the aircraft types endorsed in the authorisation (held or intended to be granted).

Specific Criteria	Acceptable Nature of Experience
Combination of categories (B1.1 + B2, B1.1 + C, etc.)	The experience must include some activities in each category (held or intended to be granted).
All categories	When the organisation is using the privilege of similar aircraft as described in Chapter 2, a minimum of 30% of the experience duration (tasks or working days as applicable) needs to be recorded for each group of similar aircraft identified in MOE Chapter 3.9.

3.2.2 Components, engines, specialised services C/S

The following specific criteria, must be taken into account, to identify an acceptable nature of experience:

Maintenance Rating	Type of C/S	Acceptable Nature of Experience
Cx rating (from C1 to C22)	Components C/S	The experience must include exercising the privileges, by means of performing tasks or exercising the certification privileges of the authorisation on each of the C ratings authorised or intended to be authorised.
Bx rating (B1, B2 or B3)	Engines C/S	The experience must include exercising the privileges, by means of performing tasks or exercising the certification privileges of the authorisation on each of the B ratings authorised or intended to be authorised.
D1 rating (any NDT method),	Specialised services C/S	The experience must include exercising the privileges, by means of performing tasks or exercising the certification privileges of the authorisation on each of the NDT methods authorised or intended to be authorised.
All ratings	All C/S	When the maintenance organisation is using the privilege of similar component, engine, APU as described in Chapter 2, a minimum of 30% of the experience duration (tasks or working days as applicable) needs to be recorded for each group of similar components, engines, APU identified in MOE Chapter 3.9

3.3 Credit of experience

For an initial TCAR AIR Part-145 C/S-S/S individual authorisation, the following credit of experience requirements may be considered:

Maintenance Rating	Credit of Experience Requirements
Ax rating C/S and S/S:	Having passed a type training (theoretical and practical) in an approved TCAR PEL Part-147 or approved training organisation acceptable to CAAT within the year preceding the issue of the TCAR AIR Part-145 C/S-S/S individual authorisation supersedes the need for demonstration of 6/24 month maintenance experience on the specific aircraft type plus any other similar aircraft
Bx rating C/S	Having passed an engine or APU training as detailed in CAAT-GM-AIR-510 Components, Engines and APU Certifying Staff, within the year preceding the issue of the TCAR AIR Part-145 C/S individual authorisation supersedes the need for demonstration of 6/24 month maintenance experience for this particular engine or APU or an engine or APU from the same family and same technology
Cx rating C/S:	Having passed a component training as detailed in the CAAT-GM-AIR-510 Components, Engines and APU Certifying Staff, within the year preceding the issue of the TCAR AIR Part-145 C/S individual authorisation supersedes the need for demonstration of 6/24 month maintenance experience for this particular component or a component from the same family and same technology
D1 rating C/S	Having passed a training and examination for an NDT method as detailed in EN4179 or NAS410, within the year preceding the issue of the TCAR AIR Part-145 C/S individual authorisation supersedes the need for demonstration of 6/24 month maintenance experience for this particular method to be added to the TCAR AIR Part-145 C/S individual authorisation

3.4 Lack of recent experience demonstration or record

When it is not possible to demonstrate by records the duration and nature of experience according to the criteria established in this GM, the TCAR AIR Part-145 C/S-S/S individual authorisation cannot be granted or renewed, unless the candidate C/S or S/S:

- (a) acquires the missing elements of duration (i.e. missing number or tasks or missing days) and nature (missing T/S or MEL tasks for a B1 aircraft maintenance C/S, missing tasks on landing gears maintenance for C14 C/S, etc.) of experience. If the TCAR AIR Part-145 approved maintenance organisation is unable to provide this possibility due to missing workload or activity, it may be acceptable that the person completes such missing elements. The missing elements may be completed by the TCAR AIR Part-145 approved maintenance organisation issuing or renewing the TCAR AIR Part-145 C/S-S/S individual authorisation or at another TCAR AIR Part-145 approved maintenance organisation, or at a maintenance organisation not having TCAR AIR Part-145 approval.

- (b) attends a complete aircraft type training or component, engine, APU training according to the previous chapter Credit of Experience. However, in the case of the renewal of the TCAR AIR Part-145 C/S-S/S individual authorisation, this option **cannot be used as a standard means to replace** experience demonstration, but should only be used under extraordinary circumstances such as a person coming from a period of inactivity, a maintenance organisation having no maintenance workload for a period of time, etc. The preferred solution in case of lack of recent experience should be always to acquire the missing part according to the previous point (a)
- (c) limited to the case of an Ax rated maintenance organisation, with a scope of work limited to minor line maintenance such as for example transit, daily, weekly. Depending on the amount of activity carried out by the maintenance organisation, it may be difficult for each of the line maintenance C/S to demonstrate the necessary nature of experience covering the full privileges. In such case it may be accepted, that the TCAR AIR Part-145 C/S individual authorisation is issued or renewed as applicable, introducing limitations relevant to the missing nature of experience (authorisation excluding defects rectification, etc.). Such limitation may be removed by complying with point (a) or (b) above, as necessary.

Note: when all the C/S available for a certain aircraft type are endorsed with limitations in the TCAR AIR Part-145 C/S individual authorisation, the maintenance organisation is responsible for analysing the possible impact on the scope of approval and for continued compliance with TCAR AIR Part-145 maintenance experience records

4 INDIVIDUAL LOGBOOK

The compliance with the 6/24 month maintenance experience requirement must be documented in an appropriate manner and include, as a minimum, the elements listed in **Appendix 1 - 3** to demonstrate that both the duration and nature of experience meet the required standard.

A standard template for recording the maintenance experience is provided in **Appendix 1** and **2**. The experience may be recorded or documented in any individual logbook or recording system, which may be an automated one.

Where a maintenance organisation is able to develop an automated system, the automatically generated logbook needs to contain, at least, the same level of information detailed in **Appendix 3** either:

- directly in the logbook printout
- indirectly by retrievable information (e.g. to be found in the work packages referred in the logbook itself)

The final decision to accept such a system is left to CAAT.

APPENDIX 1 LOGBOOK RECORD (EXAMPLE)

1. Date (DD/MM/YY)	2. Location	3. A/C or Comp. Type	4. A/C Reg. or Comp. S/N	5. Type of maintenance (rating)	6. Privilege used	7. Task type								8. Type of activity				9. ATA	10. Operation performed	11. Time Duration	12. Maintenance record ref.	13. Remarks		
						FOT	SGH	R/I	MEL	TS	MOD	REP	INSP	Training	Perform	Supervise	CRS							
2/1/13	XX workshop	FDR	123456	C13	component cert. staff						X		X				X		31	shop visit for repair	16	CAAT Form 1 nr. XXXXXX		
1/1/13	Moscow SVO	A320 (CFM56)	EU-CAO	A1-line	B1			X					X		X		X	32	RH MLG WHEEL change	1	ATL page 12			

APPENDIX 2 SUMMARISED OF RECORD (NUMBER OF PERFORMED TASKS OR WORKING DAYS) (EXAMPLE)

Type of task	Number of task applicable to the aircraft type / Component										Total of individual task type	Total	
	Aircraft type (Group #1) / Component		Aircraft type (Group #2) / Component		Aircraft type (Group #XX) / Component		Aircraft type (Group #XX) / Component		Aircraft type (Group #XX) / Component				
Servicing											Servicing		
Inspection											Inspection		
Operational and functional testing											Operational and functional testing		
Troubleshooting											Troubleshooting		
Repairing											Repairing		
Modifying											Modifying		
Removal/Installation of components											Removal/Installation of components		
Supervising these activities											Supervising these activities		
Releasing aircraft to service											Releasing aircraft to service		
Other Activity (20%)	Aircraft or Component maintenance related training as an instructor/assessor or as a student		Maintenance technical support/engineering			Maintenance management/planning					<p>Example how to count experience</p> <p>A. 180 tasks on different dates</p> <ul style="list-style-type: none"> 3-line maintenance tasks per day = 1 task-day Simple task for component maintenance can be counted on 1 task per day. Complex maintenance task can be counted more than one task per day. (Engine and LDG replacement) <p>B. 100 working days:</p> <ul style="list-style-type: none"> Base maintenance activity involving approximately 7-8 working hours per day = 1 working day. Complex task for component maintenance can be counted = 1 working day. 		
Number of day performed (working 7 - 8 Hrs / day)													
Number of working days (working 7 - 8 Hrs / day)	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

APPENDIX 3 LOGBOOK DATA

The following elements comprise the minimum required to satisfy the intent of section 4

ID	Option	Description/Remarks
1. Date	-	Date when the maintenance activity was carried out
2. Location	-	Location where the maintenance activity was carried out
3. Aircraft or component type	-	Self-explanatory
4. Aircraft Registration or component S/N	-	Self-explanatory
5. Type of maintenance (rating)	-	Identify the class rating under which the maintenance is carried out The various options correspond to the different ratings possible for a TCAR AIR Part-145 approved maintenance organisation
6. Privilege used	-	When the person holds different privileges, this block is intended to identify the C/S or S/S privilege used, depending upon the rating identified in the previous row (i.e. aircraft C/S cat A or B1 or B2 or C, components or engines or NDT C/S)
7. Task type	Identify the task type using the term that is the most applicable to the task carried out. More than one term may be selected (i.e. TS and R/I)	
	FOT	Functional or Operational Test
	SGH	Service and Ground Handling
	R/I	Removal or Installation
	MEL	Minimum Equipment List
	TS	Trouble Shooting
	MOD	Modification
	REP	Repair
8. Type of activity	Identify the type of activity using the term that is the most applicable to the activity carried out. More than one term may be selected	
	Training	The person recording the task in this logbook is under training
	Perform	The maintenance activity recorded in the row was performed by the logbook owner
	Supervise	The maintenance activity recorded in the row was supervised by the logbook owner
	CRS	The maintenance activity recorded in the row was released to service by the logbook owner
9. ATA	-	Enter the ATA chapter number which best describes the majority of the activity carried out. More than one ATA chapter may be entered when necessary and applicable to the activity carried out
10. Operation performed	-	Provide detailed reference to the task carried out
11. Time (hrs)	-	Enter the total time (in hours) spent to accomplish the activity recorded in the row
12. Maintenance record ref.	-	Enter the precise reference of the maintenance records where the activity mentioned in this logbook was recorded (ATL page 34 dated 1/1/2013, or work card nr. 12345, etc.)
13. Remarks	-	Intended to be used for any additional comments for which it was not possible to use other fields