สำนักงานการบินพลเรือนแห่งประเทศไทย
The Civil Aviation Authority of Thailand

Thailand Civil Aviation Regulation – Airworthiness Part Continuing Airworthiness (TCAR AIR Part-ML)

Issue: 01
Revision: 00
Date 15 November 2024

Approved by

Suttipong Kongpool
Director General
The Civil Aviation Authority of Thailand

THAILAND CIVIL AVIATION REGULATION (TCAR)

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RECORD OF REVISIONS

Revision No.	Date (DD-MMM-YYYY)	Subject	Insert By (Department)
00	15 NOV 2024	Initial Issue	AIR

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INTRODUCTION AND APPLICABILITY

This requirement establishes common technical requirements to ensure the continuing airworthiness of Type Certificate aircraft, including any component for installation thereto, which are registered in Kingdom of Thailand.

TCAR AIR Part-ML applies to the following:

(a) aeroplanes of 2,730 kg maximum take-off mass or less;
(b) rotorcraft of 1,200 kg maximum take-off mass or less, certified for a maximum of up to 4 occupants;
(c) other LA2 aircraft.

All Complex motor-powered aircraft including those not listed in an air operator certificate in accordance with TCAR OPS must follow TCAR AIR Part-M.

In this requirement the word ‘shall’ is used to indicate where the Director General expects the person or organisation to respond and adhere closely to the defined requirement.

DEFINITIONS

(a) **"Complex motor-powered aircraft"** shall mean:

(i) an aeroplane:

— with a maximum certificated take-off mass exceeding 5,700 kg, or

— certificated for a maximum passenger seating configuration of more than nineteen, or

— certificated for operation with a minimum crew of at least two pilots, or

— equipped with one or more turbojet engines or more than one turboprop engine

(ii) a helicopter certificated:

— for a maximum take-off mass exceeding 3,175 kg, or

— for a maximum passenger seating configuration of more than nine, or

— for operation with a minimum crew of at least two pilots

(ii) a tilt rotor aircraft;

(b) **'LA1 aircraft'** shall mean the following manned Light Aircraft:

(i) an aeroplane with a maximum take-off mass (MTOM) of 1,200 kg or less that is not classified as a Complex aircraft;

(ii) a sailplane or powered sailplane of 1,200 kg MTOM or less;

(iii) a balloon with a maximum design lifting gas or hot air volume of not more than 3,400 m^3 for hot air balloons, 1,050 m^3 for gas balloons, 300 m^3 for tethered gas balloons;

(iv) an airship designed for not more than four occupants and a maximum design lifting gas or hot air volume of not more than 3,400 m^3 for hot air airships and 1,000 m^3 for gas airships;

(c) **'LA2 aircraft'** shall mean the following manned Light Aircraft:

(i) an aeroplane with a Maximum Take-off Mass (MTOM) of 2,000 kg or less that is not classified as a Complex aircraft;

(ii) a sailplane or powered sailplane of 2,000 kg MTOM or less;

(iii) a balloon;

(iv) a hot airship;

(v) a gas airship complying with all of the following characteristics:

— 3 % maximum static heaviness,

— non-vectored thrust (except reverse thrust),

— conventional and simple design of structure, control system and ballonet system,

— non-power assisted controls.

(d) - Reserved -

(e) **'limited operations'** means the operations of other-than-complex aircraft for:

(i) cost-shared flights by private individuals, on the condition that the direct cost is shared by all the occupants of the aircraft, pilot included and the number of persons sharing the direct costs is limited to six;

(ii) competition flights or flying displays, on the condition that the remuneration or any valuable consideration given for such flights is limited to recovery of direct costs and a proportionate contribution to annual costs,

(iii) introductory flights, parachute dropping, sailplane towing or aerobatic flights performed either by a training organisation, or by an organisation created with the aim of promoting aerial sport or leisure aviation, on the condition that the aircraft is operated by the organisation on the basis of ownership or dry lease, that the flight does not generate profits distributed outside of the organisation, and that whenever non-members of the organisation are involved, such flights represent only a marginal activity of the organisation.

For the purpose of this Regulation, 'limited operations' are not considered as CAT operations or commercial specialised operations;

(f) **'independent certifying staff'** means certifying staff who do not work on behalf of an approved maintenance organisation and who comply with the requirements of TCAR PEL Part-66;

(g) **'maintenance organisation'** means an organisation holding an approval issued in accordance with, either:

(i) TCAR AIR Part-145; or

(ii) TCAR AIR Part-CAO.

(h) **'owner'** means the person responsible for the continuing airworthiness of the aircraft, including:

(i) Thai registered owner of the aircraft;

(ii) the lessee in the case of a leasing contract;

(iii) the operator.

(i) **'Airworthy'** means the status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for **safe operation**.

(j) **'Continuing airworthiness'** means the set of processes by which all aircraft comply with the applicable **airworthiness requirements** and remain in a condition for safe operation throughout their operating life.

ABBREVIATION

ALI	Airworthiness Limitation Items
AMP	Aircraft Maintenance Programme
AOC	Air Operator Certificate
ATO	Aircraft Training Organisation
CAAT	The Civil Aviation
CAMO	Continuing Airworthiness Management Organisation
CAO	Combined Airworthiness Management Organisation
DAH	Design Approval Holder
MIP	Minimum Inspection Programme
MTOW	Max Take of Weight
NDT	Non-Destructive Testing
PIC	Pilot in Command
TCAR	Thailand Civil Aviation Regulation
TSO	Technical Standard Order

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TCAR AIR PART-ML

SUBPART A — GENERAL

ML.A.101 Scope

This part establishes the measures to be taken to ensure that the airworthiness of the aircraft is airworthy. It also specifies the conditions to be met by the persons or organisations involved in continuing airworthiness and maintenance activities.

SUBPART B — ACCOUNTABILITY

ML.A. 201 Responsibilities

(a) The owner is responsible for the continuing airworthiness of an aircraft and shall ensure that no flight takes place unless:

(1) the aircraft is maintained in an airworthy condition, and;

(2) any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable, and;

(3) the airworthiness certificate remains valid, and;

(4) the maintenance of aircraft is performed in accordance with the maintenance programme as specified in point ML.A.302.

(b) By derogation from point (a), where the aircraft is leased, the responsibilities set out in point (a) shall apply to the lessee, if the lessee is identified either in the registration document of the aircraft or in the leasing contract.

(c) Any person or organisation performing maintenance of aircraft and components shall be responsible for the maintenance tasks being performed.

(d) The pilot-in-command of the aircraft shall be responsible for the satisfactory accomplishment of the preflight inspection. That inspection shall be carried out by the pilot or another qualified person but need not be carried out by an approved maintenance organisation or by certifying staff.

(e) For aircraft operated by an ATO or commercial aerial work or commercial balloon operations or commercial sailplane operations, the operator shall

(1) be approved as a CAMO or as a CAO for the management of the continuing airworthiness of its aircraft in accordance with TCAR AIR Part-CAMO or TCAR AIR Part-CAO, or contract such an organisation using the contract set out in Appendix I to this Part;

(2) ensure that all maintenance is performed by maintenance organisations approved in accordance with point (g) of DEFINITIONS;

(3) ensure that the requirements of point (a) are satisfied.

(f) For aircraft not included in point (e), in order to satisfy the requirements of point (a), the owner of the aircraft may contract the tasks associated with continuing airworthiness management to an organisation approved as a CAMO or CAO in accordance with TCAR AIR Part-CAMO or TCAR AIR Part-CAO. In that case, the contracted organisation shall assume responsibility for the proper performance of those tasks and a written contract shall be concluded in accordance with Appendix I to TCAR AIR Part-ML. If the owner does not contract such an organisation, the owner is responsible for the proper performance of the tasks associated with the continuing airworthiness management.

(g) The owner shall grant CAAT access to the aircraft and the aircraft records, in order for CAAT to determine whether the aircraft complies with the requirements of this Part.

(h) In the case where an aircraft included in an air operator certificate is used for non-commercial or specialised operations under point ORO.GEN.310 of Part-ORO or point NCO.GEN.104 of Part-NCO to TCAR OPS, the operator shall ensure that the tasks associated with continuing airworthiness are performed by the CAMO approved in accordance with TCAR AIR Part-CAMO or CAO approved in accordance with TCAR AIR Part-CAO, whichever is applicable, of the air operator certificate holder.

ML.A. 202 Occurrence reporting

(a) Without prejudice to the reporting requirements of TCAR AIR Part-145 and TCAR AIR Part-CAMO, any person or organisation responsible in accordance with point ML.A.201 shall report any identified condition of an aircraft or component which endangers flight safety to:

(1) CAAT and state of operator, when the aircraft is operated under another authority.

(2) the organisation responsible for the type design or supplemental type design.

(b) The reports referred to in point (a) shall be made in accordance with Reporting of Civil Aviation Occurrences (CAAT Requirement No.22) and shall contain all pertinent information about the condition known to the person or organisation making the report.

(c) Where the maintenance or the airworthiness review of the aircraft is carried out on the basis of a written contract, the person or the organisation responsible for those activities shall also report any condition referred to in point (a) to the owner of the aircraft and, when different, to the CAMO or CAO concerned.

(d) The person or organisation shall submit the reports referred to in points (a) and (c) as soon as possible, but no later than 72 hours from the moment when the person or organisation identified the condition to which the report relates, unless exceptional circumstances prevent this.

SUBPART-C — CONTINUING AIRWORTHINESS

ML.A. 301 Continuing airworthiness tasks

The aircraft continuing airworthiness and the serviceability of both operational and emergency equipment shall be ensured by:

(a) the accomplishment of pre-flight inspections;

(b) the rectification of any defect and damage affecting safe operation in accordance with data specified in points ML.A.304 and ML.A.401, as applicable, while taking into account the minimum equipment list (MEL) and configuration deviation list, when they exist;

(c) the accomplishment of all maintenance, in accordance with the AMP referred to in point ML.A.302;

(d) the accomplishment of any applicable:

(1) airworthiness directive;

(2) operational directive with a continuing airworthiness impact;

(3) continued airworthiness requirement established by CAAT;

(4) measures mandated by CAAT in immediate reaction to a safety problem;

(e) the accomplishment of modifications and repairs in accordance with point ML.A.304;

(f) maintenance check flights when necessary.

ML.A. 302 Aircraft Maintenance Programme

(a) Maintenance of each aircraft shall be organised in accordance with an aircraft maintenance programme (AMP).

(b) The AMP and any subsequent amendments shall be,

(1) declared by the owner in accordance with point (c)(7) of point ML.A.302, where the continuing airworthiness of the aircraft is not managed by a CAMO or CAO; or

(2) approved by the CAMO or CAO responsible for managing the continuing airworthiness of the aircraft.

The owner declaring the AMP in accordance with point (b)(1) or the organisation approving the AMP in accordance with point (b)(2) shall keep the AMP updated.

(c) The AMP:

(1) shall clearly identify the owner of the aircraft and the aircraft to which it relates, including any installed engine and propeller, as applicable;

(2) shall include,:

(a) the tasks or inspections contained in the applicable minimum inspection programme (MIP) referred to in point (d); or

(b) the instructions for continuing airworthiness (ICA) issued by the design approval holder (DAH);

(3) may include additional maintenance actions to those referred to in point (c)(2) or maintenance actions alternative to those referred to in point (c)(2)(b) at the proposal of the owner, CAMO or CAO, once approved or declared in accordance with point (b). Alternative maintenance actions to those referred to in point (c)(2)(b) shall not be less restrictive than those set out in the applicable MIP;

(4) shall include all the mandatory continuing airworthiness information, such as repetitive ADs, the airworthiness limitation section (ALS) of the ICAs, and specific maintenance requirements contained in the Type Certificate data sheet (TCDS);

(5) shall identify any additional maintenance tasks to be performed because of the specific aircraft type, aircraft configuration and type and specificity of operation, whereas the following elements shall be taken into consideration as a minimum:

(a) specific installed equipment and modifications of the aircraft;

(b) repairs carried out in the aircraft;

(c) life-limited components and flight-safety-critical components;

(d) maintenance recommendations, such as time between overhaul (TBO) intervals, issued through service bulletins, service letters, and other non-mandatory service information;

(e) applicable operational directives or requirements related to the periodic inspection of certain equipment;

(f) special operational approvals;

(g) use of the aircraft and operational environment;

(6) shall identify whether the Pilot-owners are authorised to perform maintenance;

(7) when declared by the owner, shall contain a signed statement by which the owner declares that this is the AMP for the particular aircraft registration and that they are fully responsible for its content and, in particular, for any deviations from the DAH's recommendations;

(8) when approved by the CAMO or CAO, shall be signed by this organisation, which shall retain records with the justification for any deviation introduced to the DAH's recommendations;

(9) shall be reviewed at least annually in order to assess its effectiveness, and this review shall be performed, either:

(a) in conjunction with the airworthiness review of the aircraft by the person who performs such an airworthiness review; or

(b) by the CAMO or CAO managing the continuing airworthiness of the aircraft in those cases where the review of the AMP is not performed in conjunction with an airworthiness review.

If the review shows deficiencies of the aircraft linked with deficiencies in the content of the AMP, the AMP shall be amended accordingly. In this case the person performing the review shall inform CAAT if they do not agree with the measures amending the AMP taken by the owner, CAMO or CAO. CAAT will decide which amendments to the AMP are necessary, raising the corresponding findings and, if necessary, reacting.

(d) An MIP:

(1) shall contain the following inspection intervals:

(a) for aeroplanes, touring motor gliders (TMGs) and balloons, every annual or 100-h interval, whichever comes first, to which a tolerance of 1 month or 10-h may be applied. The next interval shall be calculated as from the time the inspection takes place;

(b) for sailplanes and powered sailplanes other than TMG, every annual interval to which a tolerance of 1-month may be applied. The next interval shall be calculated as from the time the inspection takes place;

(2) shall contain the following, as applicable to the aircraft type:

(a) servicing tasks as required by the DAH's requirements;

(b) inspection of markings;

(c) review of weighing records and weighing in accordance with TCAR OPS

(d) operational test of transponder (if installed);

(e) functional test of the pitot-static system;

(f) in the case of aeroplanes:

(i) operational tests for power and revolutions per minute (rpm), magnetos, fuel and oil pressure, engine temperatures;

(ii) for engines equipped with automated engine control, the published run-up procedure;

(iii) for dry-sump engines, engines with turbochargers and liquid-cooled engines, an operational test for signs of disturbed fluid circulation;

(g) inspection of the condition and attachment of the structural items, systems and components corresponding to the following areas:

(i) for aeroplanes:

airframe, cabin and cockpit, landing gear, wing and centre section, flight controls, empennage, avionics and electrics, power plant, clutches and gearboxes, propeller and miscellaneous systems, such as the ballistic rescue system;

(ii) for sailplanes and powered sailplanes:

airframe, cabin and cockpit, landing gear, wing and centre section, empennage, avionics and electrics, power plant (for powered sailplanes) and miscellaneous systems, such as removable ballast and/or drag chute and controls, as well as water ballast system;

(iii) for hot-air balloons:

envelope, burner, basket, fuel containers, equipment and instruments;

(iv) for gas balloons:

envelope, basket, equipment and instruments.

As long as this Part does not specify an MIP for airships and rotorcraft, their AMP shall be based on the ICA issued by the DAH, as referred to in point (c)(2)(b).

(e) By derogation from points (b) and (c), a declaration by the owner or an approval by a CAMO or CAO is not required, and an AMP document is not required to be produced when the following conditions are met:

(1) all the ICA issued by the DAH are being followed without any deviations;

(2) all maintenance recommendations, such as TBO intervals, issued through service bulletins, service letters, and other non-mandatory service information, are being followed without any deviations;

(3) there are no additional maintenance tasks to be performed resulting from any of the following:

(a) specific installed equipment and modifications of the aircraft;

(b) repairs carried out in the aircraft;

(c) life-limited components and flight-safety-critical components;

(d) special operational approvals;

(e) use of the aircraft and operational environment.

(4) Pilot-owners are authorised to perform Pilot-owner maintenance.

This derogation is not applicable if the pilot-owner or, in case of jointly-owned aircraft, any of the pilot-owners is not authorised to perform Pilot-owner maintenance because this has to be specified in the declared or approved AMP.

(f) If the conditions provided for in points (e)(1) to (e)(4) are met, the AMP applicable to the aircraft shall consist of the following:

(1) the ICA issued by the DAH;

(2) the maintenance recommendations, such as TBO intervals, issued through service bulletins, service letters, and other non-mandatory service information;

(3) the mandatory continuing airworthiness information, such as repetitive ADs, the ALS of the ICA and specific maintenance requirements contained in the TCDS;

(4) the tasks due to specific operational or airspace directives or requirements in relation to particular instruments and equipment.

ML.A. 303 Airworthiness Directive

Any applicable airworthiness directive must be carried out within the requirements of that airworthiness directive, unless otherwise specified by CAAT.

ML.A. 304 Data for modifications and repairs

A person or organisation repairing an aircraft or a component shall assess any damage. Modifications and repairs shall be carried out using, as appropriate, the following data:

(a) data approved by CAAT; or

(b) data from Type Certificate holder;

(c) -reserved-

ML.A. 305 Aircraft continuing airworthiness record system

(a) At the completion of any maintenance, the certificate of release to service required by point ML.A.801 shall be entered in the aircraft continuing airworthiness records system. Each entry shall be made as soon as practicable but not later than 30 days after the day of the completion of the maintenance task.

(b) The aircraft continuing airworthiness records shall consist of an aircraft logbook, engine logbook(s) or engine module log cards, propeller logbook(s) and log cards, for any service-life-limited component, as appropriate.

(c) The aircraft type and registration mark, the date, together with total flight time and/or flight cycles and/or landings, as appropriate, shall be entered in the aircraft logbooks.

(d) The aircraft continuing airworthiness records shall contain the current:

(1) status of airworthiness directives and measures mandated by CAAT in immediate reaction to a safety problem;

(2) status of modifications, repairs and other DAH maintenance recommendations;

(3) status of compliance with maintenance programme;

(4) status of service life limited components;

(5) mass and balance report;

(6) list of deferred maintenance.

(e) In addition to the authorised release document, CAAT Form 1 or equivalent, the following information relevant to any component installed (engine, propeller, engine module or service life-limited component) shall be entered in the appropriate engine or propeller logbook, engine module or service life limited component log card:

(1) identification of the component; and

(2) the type, serial number and registration, as appropriate, of the aircraft, engine, propeller, engine module or service life-limited component to which the particular component has been fitted, along with the reference to the installation and removal of the component; and

(3) the date together with the component's accumulated total flight time and/or flight cycles and/or landings and/or calendar time, as appropriate; and

(4) the current point (d) information applicable to the component.

(f) The person or organisation responsible for the management of continuing airworthiness and tasks pursuant to point ML.A.201 shall control the records as detailed in this point and present the records to CAAT upon request.

(g) All entries made in the aircraft continuing airworthiness records shall be clear and accurate. When it is necessary to correct an entry, the correction shall be made in a manner that clearly shows the original entry.

(h) An owner or operator shall ensure that a system has been established to keep the following records for the periods specified:

(1) all detailed maintenance records in respect of the aircraft and any service life-limited component fitted thereto, until such time as the information contained therein is superseded by new information equivalent in scope and detail but not less than 36 months after the aircraft or component has been released to service; and

(2) the total time in service (hours, calendar time, cycles and landings) of the aircraft and all service life-limited components, at least 12 months after the aircraft or component has been permanently withdrawn from service; and

(3) the time in service (hours, calendar time, cycles and landings) as appropriate, since last scheduled maintenance of the component subjected to a service life limit, at least until the component scheduled maintenance has been superseded by another scheduled maintenance of equivalent work scope and detail; and

(4) the current status of compliance with maintenance programme such that compliance with the approved aircraft maintenance programme can be established, at least until the aircraft or component scheduled maintenance has been superseded by other scheduled maintenance of equivalent work scope and detail; and

(5) the current status of airworthiness directives applicable to the aircraft and components, at least 12 months after the aircraft or component has been permanently withdrawn from service; and

(6) details of current modifications and repairs to the aircraft, engine(s), propeller(s) and any other component vital to flight safety, at least 12 months after they have been permanently withdrawn from service.

ML.A. 307 Transfer of aircraft continuing airworthiness records

(a) The owner shall ensure when an aircraft is permanently transferred from one owner to another that the ML.A.305 continuing airworthiness records are also transferred.

(b) When the owner contracts the continuing airworthiness management tasks to a CAMO or CAO the owner shall ensure that the continuing airworthiness records referred to in point ML.A.305 are transferred to the contracted organisation.

(c) The time periods for the retention of records set out in point (h) of point ML.A.305 shall continue to apply to the new owner, CAMO or CAO.

SUBPART D — MAINTENANCE STANDARDS

ML.A. 401 Maintenance data

(a) The person or organisation maintaining an aircraft shall only use applicable maintenance data during the performance of maintenance.

(b) For the purposes of this Part, applicable maintenance data means any of the following:

(1) any applicable requirement, procedure, standard or information issued by CAAT;

(2) any applicable airworthiness directive;

(3) the applicable instructions for continuing airworthiness and other maintenance instructions, issued by the Type Certificate holder, Supplementary Type Certificate holder and any other organisation that publishes such data acceptable to CAAT;

(4) for components approved for installation by the design approval holder, the applicable maintenance instructions published by the component manufacturers and acceptable to the design approval holder;

(5) any applicable data issued in accordance with point 145.45(d) of TCAR AIR Part-145.

ML.A. 402 Performance of maintenance

(a) Maintenance performed by approved maintenance organisations shall be in accordance with TCAR AIR Part-145 or TCAR AIR Part-CAO, as applicable.

(b) For maintenance not performed in accordance with point (a), the person performing maintenance shall:

(1) be qualified for the tasks performed, as required by this Part;

(2) ensure that the area in which maintenance is carried out is well organised and clean in respect of dirt and contamination;

(3) use the methods, techniques, standards and instructions specified in the maintenance data referred to in point ML.A.401;

(4) use the tools, equipment and material specified in the maintenance data referred to in point ML.A.401. If necessary, tools and equipment shall be controlled and calibrated to an officially recognised standard;

(5) ensure that maintenance is performed within any environmental limitations specified in the maintenance data referred to in point ML.A.401;

(6) ensure that proper facilities are used in case of inclement weather or lengthy maintenance;

(7) ensure that the risk of multiple errors during maintenance and the risk of errors being repeated in identical maintenance tasks are minimised;

(8) ensure that an error capturing method is implemented after the performance of any critical maintenance task; and

(9) perform a general verification after completion of maintenance to ensure the aircraft or component is clear of all tools, equipment and any extraneous parts or material, and that all access panels removed have been refitted.

(10) ensure that all maintenance performed is properly recorded and documented.

ML.A. 403 Aircraft defects

(a) Any aircraft defect that hazards seriously the flight safety shall be rectified before further flight.

(b) The following persons may decide that a defect does not seriously endanger flight safety, and may defer it accordingly;

(1) the pilot in respect of defects affecting non-required aircraft equipment;

(2) the pilot, when using the minimum equipment list, in respect of defects affecting required aircraft equipment — otherwise, these defects may only be deferred by authorised certifying staff;

(3) the pilot in respect of defects other than those referred to in points (b)(1) and (b)(2) if all the following conditions are met:

(i) the aircraft operated under TCAR OPS Part-NCO or, in the case of balloons or sailplanes, not operated under TCAR OPS Subpart-ADD of TCAR OPS Part-BOP or not following Subpart DEC of Part-SAO.

(ii) the pilot defers the defect with the agreement of the aircraft owner or, if applicable, of the contracted CAMO or CAO;

(4) the appropriately qualified certifying staff in respect of other defects than those referred to in points (b)(1) and (b)(2), where the conditions referred to in point 3(i) and (ii) are not met.

(c) Any aircraft defect that does not seriously hazard flight safety shall be rectified as soon as practicable from the date on which the defect was first identified and within the limits specified in the maintenance data or MEL.

(d) Any defect not rectified before flight shall be recorded in the aircraft continuing airworthiness record system referred to in point ML.A.305 and a record shall be available to the pilot.

SUBPART E — COMPONENTS

ML.A. 501 Classification and installation

(a) Unless otherwise specified in TCAR AIR Part-145 or TCAR AIR Part-CAO or TCAR AIR Part-21, a component may be fitted only if all of the following conditions are met:

(i) it is in a satisfactory condition;

(ii) has been appropriately released to service using an CAAT Form 1, or equivalent;

(iii) has been marked in accordance with TCAR AIR Part-21 or state of manufacturer requirement of such product.

(b) Prior to the installation of a component on an aircraft, the person or approved maintenance organisation shall ensure that the particular component is eligible to be fitted if different modifications or Airworthiness Directive configurations are applicable.

(c) Standard parts shall only be fitted to an aircraft or component when the maintenance data specifies those particular standard parts. Standard parts shall only be fitted when accompanied by evidence of conformity to the applicable standard and has appropriate traceability.

(d) Raw or consumable material shall only be used on an aircraft or component provided that:

(i) the aircraft or component manufacturer allows for the use of raw or consumable material in relevant maintenance data or as specified in TCAR AIR Part-145 or TCAR AIR Part-CAO;

(ii) such material meets the required material specification and has appropriate traceability;

(iii) such material is accompanied by documentation clearly relating to the particular material and containing a conformity-to-specification statement as well as the manufacturing and supplier source.

(e) In case of balloons, where different combinations of baskets, burners and fuel cylinders are possible for a particular envelope, the person installing them shall ensure that:

(i) the basket, burner and/or fuel cylinders are eligible for installation according to the TCDS or other documents referred to in the TCDS;

(ii) the basket, burner and/or fuel cylinders are in serviceable condition and have the appropriate maintenance records.

ML.A. 502 Component maintenance

(a) In case of LA1 and LA2 aircraft, components that is:

(i) not life limited, nor part of the primary structure, nor part of the flight controls;
(ii) manufactured in conformity to applicable design;
(iii) marked in accordance with state of manufacturer requirement;
(iv) identified for installation in the specific aircraft;
(v) to be installed in an aircraft whose owner has verified compliance with the applicable conditions in (i) and (iv), and has accepted responsibility for this compliance;

shall be maintained by any person or organisation, subject to reacceptance by the owner. This maintenance is not eligible for the issuance of a CAAT Form 1, and shall be subject to the aircraft release requirements.

(b) Components shall be released in accordance with the following table:

	Released using a CAAT Form 1 (as set out in TCAR AIR Part-M)	Released at aircraft level per point ML.A.801 (not possible to issue a CAAT Form 1)
Components maintained in accordance with component maintenance data (data issued by the component manufacturer)		
Maintenance other than overhaul	Engine-rated (for engine) or component-rated (for other components) maintenance organisations	(i) Aircraft-rated maintenance organisations; and/or (ii) Independent certifying staff
Overhaul of components other than engines and propellers	Component-rated maintenance organisations	Not possible
Overhaul of engine and propellers for very light aeroplane and sailplane	Engine-rated (for engine) or component-rated (for propellers) maintenance organisations	(iii) Aircraft-rated maintenance organisations; and/or (iv) Independent certifying staff
Overhaul of engine and propellers for other than very light aeroplane and sailplane	Engine-rated (for engine) or component-rated (for propellers) maintenance organisations	Not possible
Components maintained in accordance with aircraft maintenance data (data issued by the aircraft manufacturer)		
All components and all types of maintenance	Engine-rated (for engine) or component-rated (for other components) maintenance organisations	– Aircraft-rated maintenance organisations; and/or – Independent certifying staff

(c) The maintenance of components listed below;

(1) a part or appliance for which the consequences of a non-conformity with its approved design data has a negligible safety effect on the product and which is identified as such by the holder of the design approval in the instructions for continued airworthiness. In order to determine the safety effects of a non-conforming part or appliance, the design approval holder may establish in the instructions for continued airworthiness specific verification activities to be conducted by the installer of the part or appliance on the product;

(2) in the case of the embodiment of modifications and repairs in accordance with TCAR AIR Part- 21, a part or appliance, for which the consequences of a non-conformity with its design data have a negligible safety effect on the product, and which is identified as such in the certification specifications for standard changes and standard repairs issued in accordance with TCAR AIR Part-21. In order to determine the safety effects of a non-conforming part or appliance, specific verification activities to be conducted by the person that installs the part or appliance on the product may be established in the certification specifications referred to above;

(3) a part or appliance that is an item of a standard part or a higher assembly identified in points (a) and (c)(1) to (c) (2).

may be maintained by any person or organisation. In such case, by way of derogation from point (b), the maintenance of those components shall be released with a “declaration of maintenance accomplished” issued by the person or organisation that performed the maintenance. The “declaration of maintenance accomplished” shall contain at least basic details of the maintenance carried out, the date on which the maintenance was completed, and the identification of the organisation or person that issues it.
It shall be considered a maintenance record and equivalent to an EASA Form 1 in respect of the maintained component.

ML.A. 503 Service-life-limited components

(a) The term 'service life-limited components' contains the following components:

(1) components subject to a certified life limit after which the components should be retired, and;

(2) components subject to a service life limit after which the components shall undergo maintenance to restore their serviceability.

(b) Installed service-life-limited components shall not exceed the approved service life limit as specified in the AMP and Airworthiness Directives, except as provided for in point ML.A.504(c).

(c) The approved service life is expressed in calendar time, flight hours, landings or cycles, as appropriate.

(d) At the end of the approved service life limit, the component must be removed from the aircraft for maintenance, or for disposal in the case of components with a certified life limit.

ML.A. 504 Control of unserviceable components

(a) A component shall be considered unserviceable in any of the following circumstances:

(1) expiry of the component's service life limit as defined in the AMP;

(2) non-compliance with the applicable Airworthiness Directives and other continued-airworthiness requirement mandated by CAAT

(3) absence of the necessary information to determine the airworthiness status of the component or its eligibility for installation;

(4) evidence of component defects or malfunctions;

(5) component involvement in an incident or accident likely to affect its serviceability.

(b) Unserviceable components shall be identified as one of the following:

(1) unserviceable and stored in a secure location under the control of an approved maintenance organisation or independent certifying staff until a decision is made on the future status of such components;

(2) unserviceable by the person or organisation that declared the component unserviceable, and its custody shall be transferred to the aircraft owner after documenting such transfer in aircraft maintenance record system referred to in point ML.A.305.

(c) Components which have reached their certified life limit or contain a non-repairable defect or malfunction shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved in accordance with point ML.A.304.

(d) Any person or organisation responsible pursuant to point ML.A.201 shall in the case of an unsalvageable component, as provided for in point (c), take one of the following actions:

(1) retain such component in a location referred to in point (b)(1);

(2) arrange for the component to be mutilated in a manner that ensures that it is beyond economic salvage or repair before relinquishing responsibility for such a component.

(e) Notwithstanding point (d), a person or organisation responsible pursuant to point ML.A.201 may transfer responsibility of components classified as unsalvageable without mutilation to an organisation for training or research.

SUBPART H — CERTIFICATE OF RELEASE TO SERVICE (CRS)

ML.A. 801 Aircraft Certificate of release to service

(a) A CRS shall be issued after the required maintenance has been carried out properly on an aircraft.

(b) The CRS shall be issued, either by:

(1) appropriate certifying staff on behalf of the approved maintenance organisation, or;

(2) independent certifying staff, or;

(3) the pilot-owner in compliance with point ML.A.803.

(c) By derogation from point (b), in the case of unforeseen circumstances, when an aircraft is grounded at a location where no appropriately approved maintenance organisation and no appropriate certifying staff are available, the owner may authorise any person, with no less than 3 years of appropriate maintenance experience and holding the proper qualifications, to maintain the aircraft according to the standards set out in Subpart D of this Part and release the aircraft. The owner shall in that case:

(1) obtain and keep in the aircraft records, details of all the work carried out and of the qualifications held by the person issuing the certification;

(2) ensure that any such maintenance is rechecked and released in accordance with point (b) of point ML.A.801 at the earliest opportunity and within a period not exceeding 7 days or, in the case of aircraft operated under TCAR OPS Part-NCO or in the case of balloon, not operated under Subpart-ADD of TCAR OPS Part-BOP or, in the case of sailplane, not following Subpart-DEC of Part-SAO, within a period not exceeding 30 days;

(3) notify the contracted CAMO or CAO, or CAAT in the absence of such a contract, within 7 days of the issuance of such authorisation.

(d) In the case of a release to service in accordance with points (b)(1) or (b)(2), the certifying staff may be assisted in performing the maintenance tasks by one or more persons subject to their direct and continuous control;

(e) A CRS shall contain at least:

(1) basic details of the maintenance carried out;

(2) the date on which the maintenance was completed;

(3) the identity of the organisation or person issuing the release to service, including:

(i) the approval reference of the maintenance organisation and certifying staff issuing the CRS; or

(ii) in the case of point (b)(2), the identity and, if applicable, the licence number of the independent certifying staff issuing the CRS;

(4) the limitations to airworthiness or operations, if any.

(f) By derogation from point (a) and notwithstanding point (g), when the required maintenance cannot be completed, a CRS may be issued within the approved aircraft limitations. In that case, the CRS shall indicate that the maintenance could not be completed, as well as indicate any applicable airworthiness or operations limitations, as part of the information required in point (e)(4).

(g) A CRS shall not be issued in the case of any known non-compliance with the requirements of this Part which endangers flight safety.

ML.A. 802 Component certificate of release to service

(a) Except for the cases covered by point (c) of point ML.A.502, a component CRS shall be issued after the required maintenance work has been properly carried out on an aircraft component in accordance with point ML.A.502.

(b) The authorised release certificate identified as CAAT Form 1, as set out Appendix II of Part-M, constitutes the component CRS, except when such maintenance is released at aircraft level, as indicated in point ML.A.502(b).

ML.A. 803 Pilot-owner authorisation

(a) To qualify as a pilot-owner, the person must:

(1) hold a valid pilot licence or equivalent licence issued or validated by CAAT for the aircraft type or class rating;

(2) own the aircraft, either as a sole or joint owner; that owner must be, either:

(i) one of the natural persons on the registration form; or

(ii) a member of a non-profit recreational legal entity, where the legal entity is specified on the registration document as owner or operator; that member must be directly involved in the decision-making process of the legal entity and designated by that legal entity to carry out Pilot-owner maintenance.

(b) For aircraft operated under TCAR OPS Part-NCO or, in the case of balloon, not operated under Subpart-ADD of TCAR OPS Part-BOP or, in the case of sailplane, not following Subpart-DEC of Part-SAO, the pilot-owner may issue a CRS after limited Pilot-owner maintenance as provided for in Appendix II to this Part.

(c) The CRS shall be entered in the logbooks and contain basic details of the maintenance carried out, the maintenance data used, the date on which that maintenance was completed, as well as the identity, the signature and the pilot licence (or equivalent) number of the pilot-owner issuing such a certificate.

SUBPART I — AIRWORTHINESS REVIEW

ML.A. 901 Aircraft airworthiness review

To ensure the validity of the Certificate of Airworthiness (C of A), an airworthiness review of the aircraft and its continuing airworthiness records shall be carried out periodically.

(a) An airworthiness review report is issued in accordance with Appendix IV (CAAT Form 15B) to this Part upon completion of a airworthiness review. The airworthiness review report shall be valid for 1 year;

(b) The airworthiness review and the issuance of the Airworthiness review report shall be performed in accordance with point ML.A.903, either by:

(1) CAAT; or

(2) an appropriately approved CAMO or CAO; or

(3) TCAR AIR Part-145 maintenance organisation with approved procedure while performing the 100-h/annual inspection contained in the AMP; or

(4) – reserved –

(c) – reserved –

(d) – reserved –

(e) When CAAT carries out the airworthiness review itself, the owner or operator shall provide CAAT with:

(1) the documentation required by CAAT; and

(2) suitable accommodation at the appropriate location for its personnel; and

(3) when necessary, the support of personnel appropriately qualified in accordance with TCAR PEL Part-66;

ML.A. 902 Validity of the airworthiness review report

(a) An airworthiness review report becomes invalid if:

(1) - reserved -

(2) the airworthiness certificate is suspended or revoked;

(3) the aircraft is not in the aircraft register of Thailand;

(4) the Type Certificate under which the airworthiness certificate was issued is suspended or revoked

(b) An aircraft shall not fly if the airworthiness review report is invalid or indicates the presence of finding that endanger flight safety or if any of the following circumstances are present:

(1) the continuing airworthiness of the aircraft or any component fitted to the aircraft does not meet the requirements of this Part;

(2) the aircraft does not remain in conformity with the type design approved and/or validated by CAAT

(3) the aircraft has been operated beyond the limitations of the approved flight manual or certificate of airworthiness, without appropriate action being taken;

(4) the aircraft has been involved in an accident or incident that affects the airworthiness of the aircraft, without subsequent appropriate action to restore airworthiness;

(5) a modification or repair to the aircraft or any component fitted to the aircraft is not in compliance with TCAR AIR Part-21.

(c) - reserved -

ML.A. 903 Airworthiness review process

(a) To satisfy the requirement for the airworthiness review of an aircraft referred to in point ML.A.901, the airworthiness review staff shall perform a documented review of the aircraft records to verify that:

(1) airframe, engine and propeller flying hours and associated flight cycles have been properly recorded;

(2) the flight manual is applicable to the aircraft configuration and reflects the latest revision status;

(3) all the maintenance due on the aircraft according to the AMP has been carried out;

(4) all known defects have been corrected or deferred in a controlled manner;

(5) all applicable Airworthiness Directives have been applied and properly registered;

(6) all modifications and repairs made to the aircraft have been registered and are in compliance with TCAR AIR Part-21.

(7) all service-life-limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit;

(8) all maintenance has been certified in accordance with this Part;

(9) if required, the current mass-and-balance statement reflects the configuration of the aircraft and is valid;

(10) the aircraft complies with the latest revision of its type design approved or validated by CAAT;

(11) if required, the aircraft holds a noise certificate corresponding to the current configuration of the aircraft in compliance with CAAT requirements.

(b) The airworthiness review staff referred to in point (a) shall carry out a physical survey of the aircraft. For this survey, airworthiness review staff not appropriately qualified under TCAR PEL Part-66 shall be assisted by such qualified personnel.

(c) Through the physical survey of the aircraft, the airworthiness review staff shall ensure that:

(1) all required markings and placards are properly installed;

(2) the aircraft complies with its approved flight manual;

(3) the aircraft configuration complies with the approved documentation;

(4) no evident defect can be found that has not been addressed according to point ML.A.403;

(5) no inconsistencies can be found between the aircraft and the documented review of records as referred to in point (a).

(d) By derogation from point ML.A.901(a), the airworthiness review may be anticipated for a maximum period of 90 days, without loss of continuity of the airworthiness review pattern, so as to allow the physical review to take place during a maintenance check.

(e) The Airworthiness review report (CAAT Form 15B) set out to in Appendix IV shall only be issued:

(1) by appropriately authorised airworthiness review staff;

(2) when the airworthiness review has been completely carried out;

(3) - reserved -

(f) A copy of any airworthiness review report shall be sent to CAAT within 10 days .

(g) Airworthiness review tasks shall not be subcontracted.

(h) The effectiveness of the AMP may be reviewed in conjunction with the airworthiness review in accordance with point (c)(9) of point ML.A.302. This review shall be completed by the person who performed the airworthiness review. If the review shows deficiencies of the aircraft linked with

deficiencies in the content of the AMP, the AMP shall be amended accordingly. The person performing the review shall inform CAAT if they do not agree with the measures amending the AMP taken by the owner, CAMO or CAO. In such case CAAT shall decide which amendments to the AMP are necessary, raising the corresponding findings and, if necessary, suspend or revoke the certificate of airworthiness.

ML.A. 904 Qualification of airworthiness review staff

(a) Airworthiness review staff acting on behalf of CAAT shall be qualified in accordance with all of the following;

(1) at least 3 years of experience in continuing airworthiness;

(2) an appropriate licence in compliance with TCAR PEL Part-66 or an aeronautical degree or equivalent;

(3) an appropriate aeronautical-maintenance training;

Notwithstanding points (1) to (3), the requirement of point ML.A.904(a)(2) may be replaced by 4 years of experience in continuing airworthiness, in addition to those already required by point ML.A.904(a)(1).

(b) Airworthiness review staff acting on behalf of an organisation referred to in TCAR AIR Part-145, Part-CAMO or Part-CAO shall be qualified in accordance with TCAR AIR Part-145, Part-CAMO or Part-CAO, respectively.

(c) – reserved –

(d) The authorisation required under point (c)(2) shall be issued by CAAT when:

(1) CAAT has assessed that the person has the knowledge of the parts of this Part relevant to continuing-airworthiness management, performance of airworthiness reviews and issuance of airworthiness review report;

(2) the person has satisfactorily performed an airworthiness review under the supervision of CAAT.

This authorisation shall remain valid for a duration of 5 years as long as the holder has performed at least 1 airworthiness review every 12-months. If this is not the case, a new airworthiness review shall be satisfactorily performed under the supervision of CAAT.

Upon expiration of its validity, the authorisation shall be renewed for another 5 years subject to a new compliance with points (d)(1) and (d)(2). There is no limit to the number of renewals.

The holder of the authorisation shall keep records of all the airworthiness reviews performed and shall make them available, upon request, to CAAT and to any aircraft owner for whom they are performing an airworthiness review.

This authorisation may be revoked by CAAT at any time if it is not satisfied with the use of such an authorisation.

ML.A. 905 – Reserve –

- reserved -

ML.A. 906 Airworthiness review of aircraft imported into Thailand

(a) When importing an aircraft onto the Thai register from another country, the applicant shall:

(1) apply to CAAT for the issuance of a new Certificate of Airworthiness (C of A) in accordance with CAAT Requirement No. 43; and

(2) for aircraft other than new, have a maintenance review carried out satisfactorily in accordance with point ML.A.901; and

(3) have all maintenance carried out to comply with the approved or declared AMP.

(b) When satisfied that the aircraft is in compliance with the relevant requirements, the CAMO or CAO, the maintenance organisation, as provided for in point (b) of point ML.A.901, shall send documents according to CAAT Requirement No. 43 together with an airworthiness review report for the issuance of a Certificate of Airworthiness (C of A), to CAAT.

(c) The owner shall allow access to the aircraft for inspection by CAAT.

(d) A certificate of airworthiness will be issued by CAAT when it is satisfied the aircraft complies with CAAT requirement.

ML.A. 907 Finding

(a) Findings are categorised as follows:

(1) A level 1 finding is any finding of significant non-compliance with the requirements of this Part, which lowers the safety standard and seriously endangers flight safety.

(2) A level 2 finding is any finding of non-compliance with the requirements of this Part, which may lower the safety standard and may endanger the flight safety.

(b) In case of airworthiness review was carried out by CAAT in according with ML.A.901(e), after receipt of notification of findings, the person or organisation accountable referred to in point ML.A.201 shall define a corrective action plan and demonstrate corrective action to the satisfaction of CAAT within a period agreed including appropriate corrective action to prevent reoccurrence of the finding and its root cause.

APPENDICES TO TCAR AIR PART-ML

Appendix I —Continuing airworthiness management contract

(a) When an owner contracts in accordance with point ML.A.201 a CAMO or CAO to carry out continuing airworthiness management tasks, upon request by CAAT, a copy of the contract signed by both parties shall be sent by the owner to CAAT.

(b) The contract shall be developed taking into account the requirements of this Part and shall define the obligations of the signatories in relation to the continuing airworthiness of the aircraft.

(c) It shall contain, as a minimum the following information:

(1) the aircraft registration, type and serial number;

(2) the aircraft owner's or registered lessee's name or company details including the address;

(3) details of the contracted CAMO or CAO, including the address;

(4) the type of operation

(d) It shall state the following:

'The owner entrusts the CAMO or CAO with the management of the continuing airworthiness of the aircraft, the development and approval of a maintenance programme, and the organisation of the maintenance of the aircraft according to said maintenance programme.

According to the present contract, both signatories undertake to follow the respective obligations of this contract.

The owner declares, to the best of its knowledge, that all the information given to the CAMO or CAO concerning the continuing airworthiness of the aircraft is and will be accurate, and that the aircraft will not be altered without prior approval of the CAMO or CAO.

In case of any non-conformity with this contract, by either of the signatories, the contract will become null. In such a case, the owner will retain full responsibility for every task linked to the

continuing airworthiness of the aircraft, and the owner will inform CAAT within 2 weeks about the termination of the contract.'

(e) When an owner contracts a CAMO or CAO in accordance with point ML.A.201, the obligations of each party shall be assigned as follows:

(1) Obligations of CAMO or CAO:

(i) have the aircraft type included in its terms of approval;

(ii) respect all the conditions listed below with regard to maintaining the continuing airworthiness of the aircraft:

(A) develop and approve the AMP for the aircraft;

(B) once it has been approved, provide the owner with a copy of the AMP, as well as a copy of the justifications for any deviations from the DAH's recommendations;

(C) organise a bridging inspection using the aircraft's prior AMP;

(D) organise that all maintenance is carried out by an approved maintenance organisation or, if permitted, by independent certifying staff;

(E) organise that all applicable Airworthiness Directives are applied;

(F) organise that all defects discovered during maintenance, airworthiness reviews or reported by the owner are corrected by an approved maintenance organisation or, if permitted, by independent certifying staff;

(G) coordinate scheduled maintenance, the application of Airworthiness Directives, the replacement of service-life-limited parts, and component inspection requirements;

(H) inform the owner each time the aircraft must be brought to an approved maintenance organisation or, if permitted, to independent certifying staff;

(I) manage and archive all technical records;

(iii) organise the approval of any modification to the aircraft in accordance with TCAR AIR Part-21 before this modification is embodied;

(iv) organise the approval of any repair to the aircraft in accordance with TCAR AIR Part-21 before this repair is carried out;

(v) inform CAAT whenever the aircraft is not presented by the owner for maintenance as requested by the contracted CAMO or CAO;

(vi) inform CAAT whenever the present contract has not been respected;

(vii) ensure that the airworthiness review of the aircraft is carried out, when necessary, and ensure that the Airworthiness Review Report is issued;

(viii) a copy of any airworthiness review report issued shall be available for CAAT upon request;

(ix) carry out all occurrence reporting mandated by applicable regulations;

(x) inform CAAT whenever the present contract is denounced by either party.

(2) Obligations of the owner;

(i) have a general understanding of the AMP;

(ii) have a general understanding of TCAR AIR Part-ML;

(iii) present the aircraft for maintenance as directed by the contracted CAMO or CAO;

(iv) not modify the aircraft without first consulting the contracted CAMO or CAO;

(v) inform the contracted CAMO or CAO of all maintenance exceptionally carried out without the knowledge and control of the contracted CAMO or CAO;

(vi) report to the contracted CAMO or CAO through the logbook all defects found during operations;

(vii) inform CAAT whenever the present contract is denounced by either party;

(viii) inform CAAT and the contracted CAMO or CAO whenever the aircraft is sold;

(ix) carry out all occurrence reporting mandated by applicable regulations;

(x) inform on a regular basis the contracted CAMO or CAO about the aircraft flying-hours and any other utilisation data, as agreed with the contracted CAMO or CAO;

(xi) enter the CRS in the logbooks, as mentioned in point ML.A.803(c), when performing pilot-owner maintenance;

(xii) inform the contracted CAMO or CAO no later than 30 days after completion of any Pilot-owner maintenance task.

Appendix II — Limited Pilot-owner maintenance

In addition to the requirements laid down in this Part, the pilot-owner shall comply with the following basic principles before it carries out any maintenance task:

(a) **Competence and responsibility**

(1) The pilot-owner shall always be responsible for any maintenance they perform.

(2) The pilot-owner shall hold satisfactory level of competence to perform the task. It is the responsibility of a pilot-owner to become familiar with the standard maintenance practices for the aircraft and with the AMP.

(b) Tasks

The Pilot-owner may carry out simple visual inspections or operations to check the airframe, engines, systems and components for general condition, obvious damage and normal operation.

A maintenance task shall not be released by the pilot-owner if any of the following conditions occurs:

(1) it is a critical maintenance task;

(2) it requires the removal of major components or a major assembly;

(3) it is carried out in compliance with an Airworthiness Directive or an airworthiness limitation item (ALI) unless specifically allowed in the Airworthiness Directive or the ALI;

(4) it requires the use of special tools or calibrated tools (except for torque wrench and crimping tool);

(5) it requires the use of test equipment or special testing (e.g., non-destructive testing (NDT), system tests or operational checks for avionics equipment);

(6) it is composed of any unscheduled special inspections (e.g., heavy-landing check);

(7) it affects systems essential for instrument flight rules (IFR) operations;

(8) it is a complex maintenance task in accordance with Appendix III, or it is a component maintenance task in accordance with point (a) or (b) of point ML.A.502;

(9) it is part of the 100-h/annual check (for those cases the maintenance task is combined with the airworthiness review performed by maintenance organisations).

The criteria referred to in points (1) to (9) cannot be overridden by less restrictive instructions issued in accordance with the AMP referred to in point ML.A.302.

Any task described in the aircraft flight manual (or other operational manuals), for example preparing the aircraft for flight (assembling the sailplane wings, or performing a pre-flight inspection, or assembling a basket, burner, fuel cylinders and an envelope combination for a balloon, etc.), is not considered a maintenance task and, therefore, does not require a CRS.

Nevertheless, the person assembling those parts is responsible for ensuring that those parts are eligible for installation and in a serviceable condition.

(c) Performance and records of the pilot-owner maintenance tasks

The maintenance data, as specified in point ML.A.401, must always be available during the conduct of pilot-owner maintenance and must be complied with. Details of the data referred to in the conduct of pilot-owner maintenance must be included in the CRS in accordance with point (d) of point ML.A.803.

The pilot-owner must inform the contracted CAMO or CAO (if such contract exists) about the completion of the pilot-owner maintenance tasks no later than 30 days after completion of these tasks in accordance with point (a) of point ML.A.305.

Appendix III — Complex maintenance tasks not to be released by the Pilot-owner

All of the following constitutes the complex maintenance tasks which, according to Appendix II, shall not be carried out by the pilot-owner. Those tasks shall be released either by an approved maintenance organisation or by independent certifying staff:

(a) the modification, repair or replacement by riveting, bonding, laminating, or welding of any of the following airframe parts:

(1) a box beam;

(2) a wing stringer or chord member;

(3) a spar;

(4) a spar flange;

(5) a member of a truss type beam;

(6) the web of a beam;

(7) a keel or chine member of a flying boat hull or a float;

(8) a corrugated sheet compression member in a wing or tail surface;

(9) a wing main rib;

(10) a wing or tail surface brace strut;

(11) an engine mount;

(12) a fuselage longeron or frame;

(13) a member of a side truss, horizontal truss or bulkhead;

(14) a seat support brace or bracket;

(15) a seat rail replacement;

(16) a landing-gear strut or brace strut;

(17) an axle;

(18) a wheel; and

(19) a ski or ski pedestal, excluding the replacement of a low-friction coating;

(b) the modification or repair of any of the following parts:

(1) aircraft skin or the skin of an aircraft float if the work requires the use of a support, jig or fixture;

(2) aircraft skin that is subject to pressurisation loads if the damage to the skin measures more than 15 cm (6 in.) in any direction;

(3) a load-bearing part of a control system, including a control column, pedal, shaft, quadrant, bell crank, torque tube, control horn and forged or cast bracket, but excluding:

(i) the swaging of a repair splice or cable fitting; and

(ii) the replacement of a push-pull tube end fitting that is attached by riveting;

(4) any other structure not listed in point (a) that a manufacturer has identified as primary structure in their maintenance manual, structural repair manual or instructions for continuing airworthiness;

(c) the performance of all of the following maintenance on a piston engine:

(1) dismantling and subsequent reassembling of a piston engine other than:

(i) to obtain access to the piston/cylinder assemblies; or

(ii) to remove the rear accessory cover to inspect and/or replace oil pump assemblies, where such work does not involve the removal and refitment of internal gears;

(2) dismantling and subsequent reassembling of reduction gears;

(3) welding and brazing of joints, other-than-minor weld repairs to exhaust units carried out by a suitably approved or authorised welder but excluding component replacement;

(4) the disturbing of individual parts of units which are supplied as bench-tested units except for the replacement or adjustment of items normally replaceable or adjustable in service;

(d) the balancing of a propeller, except;

(1) for the certification of static balancing where required by the maintenance manual; and

(2) dynamic balancing on installed propellers using electronic balancing equipment where permitted by the maintenance manual or other approved airworthiness data;

(e) any additional task that requires:

(1) specialised tooling, equipment or facilities; or

(2) significant coordination procedures because of the extensive duration of the tasks and the involvement of several persons.

Appendix IV — Airworthiness Review Report (CAAT Form 15B)

AIRWORTHINESS REVIEW REPORT for TCAR AIR PART-ML
CAAT FORM 15B

AIRWORTHINESS AND AIRCRAFT ENGINEERING DEPARTMENT

AR Entity (see Note 1)	☐ CAMO ☐ CAO ☐ AMO ☐ CAAT		
AR Entity Name		**Certificate No.**	
AR Staff Name			
AR Staff Authorized No.			
Aircraft Operator Name			
Aircraft available at place and period: *(In case aircraft physical survey by CAAT is required)*			

Notes for use: also refer to the Explanatory Notes at the end of this report

- Where an item is satisfactory, indicate '**Y**' into the appropriate column. If not applicable, indicate '**N/A**'
- All aircraft defects will require maintenance action prior to further flight
- Section 5 cannot be certified if there is evidence or indications that the aircraft is not airworthy
- The Explanatory Notes' pages are not required to be kept with the completed certified report
- Send the report form to airworthiness@caat.or.th

Date next review due	

One year after completed sign on Section 4 or 5

1. AIRCRAFT DETAILS

Registration Mark *(Or reserved mark for imported Aircraft)*			**Previous Registration** *(Imported Aircraft)*			
	Airframe		**Engine(s) / Propulsion**		**Propeller(s)**	
Manufacturer						
Type / Model						
Serial No.			#1	#2	#1	#2
Date of Manufacture			#1	#2	#1	#2
Hours since new			#1	#2	#1	#2
Cycles sine new			#1	#2	#1	#2
State of Design						
State of Manufacture						
TCDS No.		**Rev.**		**Rev.**		**Rev.**
TCDS No. for Noise and Emissions *(For imported aircraft only)*						**Rev.**
Maximum Take-Off Weight						**kg.**

AIRWORTHINESS REVIEW REPORT for TCAR AIR PART-ML
CAAT FORM 15B
AIRWORTHINESS AND AIRCRAFT ENGINEERING DEPARTMENT

2. DOCUMENT REVIEW

Date of Document Review			
Place of Document Review			
C of R Reference		**C of R Issue Date**	
C of A Reference *(or Export C of A for imported aircraft)*		**C of A Expiry Date** *(or Export C of A, as applicable)*	

Airframe, engine and propeller flying hours and cycles have been properly recorded?	
The flight manual is applicable to the aircraft configuration and reflects the latest revision status?	
All maintenance due according to the approved/declared maintenance program has been carried out?	
All known defects have been corrected or deferred in a controlled manner?	
All applicable Airworthiness Directives (AD) have been applied and properly registered?	
All modifications, and repairs made to the aircraft have been registered, approved/accepted by CAAT, and in compliance with approved design?	
All time controlled and life limited components installed on the aircraft are properly identified, registered, and controlled in accordance with approved/declared maintenance program, and have not exceeded their mandatory limit?	
All maintenance has been certified in accordance with TCAR AIR Part-ML?	
The current mass and balance statement reflect the current aircraft configuration and is valid?	
The aircraft holds a noise certificate corresponding to the current aircraft configuration?	
The aircraft complies with the latest revision of its type designed approved or validated by CAAT?	

List of persons or organizations having carried out continuing airworthiness activities including maintenance tasks on the aircraft and its component since the last airworthiness review:

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3. AIRCRAFT PHYSICAL SURVEY (see Note 2)

Date of Aircraft Physical Survey			
Place of Aircraft Physical Survey			
Name of Assisting TCAR PEL Part-66 Personnel (see Note 3)	☐ The AR staff is also holding a valid licence ☐ Assisting Name: _____		
Assisting TCAR PEL Part-66 Personnel's Signature			
Licence No.		**Licence Valid Until**	

The required documents to be on board are present?	
All required markings and placards (see Note 4) are properly installed and legible?	
The aircraft complies with its approved/accepted flight manual?	
The aircraft configuration complies with the approved documentation (TCDS, STC, etc.)?	
All defects have been correctly rectified or deferred in a controlled manner (No evidence defect that has not been addressed is found)?	
The aircraft condition is consistent with the documented review of records in **Section 2** of this report?	

4. DEFECTS / FINDINGS OBSERVED (see Note 5)

(All defects / findings must be cleared before certifying the review)

Reference	Defects / Findings Description	Rectification / Actions

Extra page(s) attached ? _____

If the defects / findings have not been rectified by the report issuance date, the Airworthiness Review Staff may sign off on the report in this section. However, if the unresolved defects / findings endanger flight safety, the aircraft must not be operated in accordance with ML.A.902(b).	_____ ( ) **Report date:** / /

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5. CERTIFICATION (see Note 6)

(The review cannot be certified with open defects / findings)

Statement
I certify that all of the above records have been reviewed for the period plus a physical survey of the aircraft undertaken and the aircraft with the registration mark [-] is found to be fully in compliance with all of the applicable requirements. **The aircraft in its current configuration complies with the following:** - **Airworthiness directives up to the latest published issue** - **Type certificate datasheet** - **Maintenance programme** - **Limitation for life-limited parts and time-controlled components** - **The valid weight and center of gravity schedule reflecting the current configuration of the aircraft** - **All modifications and repairs requirements** - **The current flight manual including supplements** - **Operational requirements** **In addition, all of the above items are properly entered and certified in the aircraft continuing airworthiness record system and/or in its technical log.** **At the time of the review, the aircraft is considered AIRWORTHY.**

Airworthiness Review Staff Signature	**I confirm that information in this report is true and accurate** _____ **(** **)** **Report completed date:** / /

Explanatory notes for completing the Airworthiness Review Report

General, for all sections

- Enter a '**Y**' in the appropriate column to indicate that the aircraft meets the applicable requirements
- Enter '**N/A**' if the requirement is not applicable to the aircraft or operation

Note 1

ML.A.901, GM1 ML.A.901
The airworthiness review and the issuance of the Airworthiness review report shall be performed in accordance with point ML.A.903, either by:

(1) CAAT; or
(2) An appropriately approved CAMO or CAO; or
(3) The approved maintenance organisation while performing the 100-h/annual inspection contained in the AMP; or
(4) - reserved -

If a CAMO/CAO holding the AR privilege is contracted by the owner, this organisation does not have the obligation to carry out the AR itself. The owner may select another CAMO or CAO to carry out the AR, or request the maintenance organisation to carry it out and issue the ARC in conjunction with the annual inspection.

The list of the organisations or persons that are allowed to perform an AR does not presume that they have the obligation to accept a request to carry out an AR.

The "AR Entity Name" and "Certificate No." data fields only applicable to CAMO, CAO, or AMO. For TCAR PEL Part-66 Personnel, fulfilling "AR Staff", "AR Staff Authorized No.", and "Licence No." are sufficient.

Note 2

ML.A.903(c)
The physical survey could require actions categorised as maintenance (e.g. operational tests, tests of emergency equipment, visual inspections requiring panel opening, etc.). In this case, after the airworthiness review, a release to service should be issued. The physical survey may include verifications to be carried out during flight. To ensure compliance, the physical survey may include relevant sample checks of items.

Note 3

ML.A.903(b)
If the Airworthiness Review (AR) staff are qualified as TCAR PEL Part-66 personnel, fill in the licence number and validity.

When the AR staff are not appropriately qualified as TCAR PEL Part-66 personnel, in order to release any maintenance as recommended in Note 2, it is required them to be assisted by such qualified personnel. However, the function of such personnel is limited to performing and releasing the maintenance actions requested by the AR staff, it not being their function to perform the physical survey of the aircraft. This means that the AR staff who is going to sign the airworthiness review report should be the one performing both the documented review and the physical survey of the aircraft. It is not the intent of the rule to delegate the survey to TCAR PEL Part-66 personnel who are not AR staff.

Note 4

ML.A.903(c)(1)
The markings and placards can be required by certification information in the TCDS, the AFM, manufacturer instructions (ATA Chapter 11), the STCs' ICA, ADs, or supplemental information from approved drawing/document.

Note 5

ML.A.903(e)
New aircraft defects identified during the review must also be recorded in the technical log by appropriate TCAR PEL Part-66 personnel. All aircraft defects require a clearing maintenance action (correction or deferral) prior to further flight.

As applicable to aircraft operator/owner who is required to develop their own customized Aircraft Maintenance Programme (AMP), when the effectiveness of the AMP is reviewed in conjunction with the airworthiness review in accordance with point (c)(9) of point ML.A.302 by the AR staff, if the review shows deficiencies of the aircraft linked with deficiencies in the content of the AMP, the AMP shall be amended accordingly. The person performing the review shall inform CAAT (via **airworthiness@caat.or.th**) if they do not agree with the measures amending the AMP taken by the owner, CAMO or CAO. In such case CAAT will decide which amendments to the AMP are necessary, raising the corresponding findings and, if necessary, suspend or revoke the certificate of airworthiness.

In case of the defects / findings have not been rectified by the report issuance date, the next review due date shall be calculated from the completion date in Section 4 of this report.

Note 6

ML.A.903(f)
THE REPORT CANNOT BE CERTIFIED WITH OPEN FINDINGS. Each finding requires a corrective action before the certification of the ARR. The corrective action should be adequate to the open finding and it should be carried out and verified by the AR staff before the issue of the ARR.

Once the report is completed and certified, it should be kept along with the documents listed at the end of Section 2 of this report including all reviewed documents. The copy of airworthiness review must be available for CAAT upon request.

Once the report is completed and certified, it must be submitted to **airworthiness@caat.or.th** within 10 days.

The next review due date shall be calculated from the certification date in Section 5 of this report.