



**REPUBLIC OF INDONESIA
MINISTRY OF TRANSPORTATION**

CIVIL AVIATION SAFETY REGULATION (CASR)

**PART 147
AIRCRAFT MAINTENANCE TRAINING ORGANIZATION**

CIVIL AVIATION SAFETY REGULATIONS (C.A.S.R.)

PART 147

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AIRCRAFT MAINTENANCE TRAINING ORGANIZATION

**REPUBLIC OF INDONESIA
MINISTRY OF TRANSPORTATION**

PART 147

LICENSING OF AIRCRAFT MAINTENANCE ENGINEER

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SUBPART A – GENERAL

147.1 Applicability

This part prescribes the requirements for issuing aircraft maintenance training organization certificates and associated ratings, and the general operating rules for holders of those certificates and ratings.

147.3 Definitions and Abbreviations

Accountable Manager. The person designated by an aircraft maintenance training organization, who is responsible for and has the authority over all the operations that are conducted under Part 147, including ensuring that training enrollments follow the training procedure manual.

Approved Noncertificated Instructors (Specialized Instructors). Individuals who are not certificated but who have been found qualified by the AMTO to teach mathematics, physics, basic electricity, basic hydraulics, drawing, and similar subjects. The applicant is required to maintain a list of the names and qualifications of specialized instructors, and upon.

Certificated Instructors. Those instructors who hold DGCA Basic Certificate and the category appropriate for the AMTO subjects to be taught.

Curriculum. A set of courses constituting an area of specialization or subjects.

Instruction Hour. The educational unit hour, as used by an AMTO, that consists of a time period of 50 minutes. This instructional time period conforms to the existing practices at many education institutions.

Instructional equipment. Equipment used to provide instruction and instructional equipment is not required to meet return to service standards.

Shop. Facilities for providing instruction on projects taught. The shop environment should resemble a typical aviation repair facility.

Shop Equipment. Machinery and supportive equipment, such as air compressors, work stands, racks, benches, fabricating devices, sheet metal equipment, and battery chargers.

147.5 Ratings

The following types of training are issued under this part are:

(a) Basic aircraft maintenance training

- (1) A1.3 : Airframe, airplane (A1) and piston engine (A3)
- (2) A1.4 : Airframe, airplane (A1) and turbine engine (A4)
- (3) A2.3 : Airframe, helicopter (A2) and piston engine (A3)
- (4) A2.4 : Airframe, helicopter (A2) and turbine engine (A4)
- (5) C : IERA (Instrument, Electrical, Radio)

(b) Aircraft type training

- (1) A - Airframes and Engines

(2) C - Avionic

(c) Component type training

147.7 Certificate Required

No person may operate as an approved aircraft maintenance training organization without, or in violation of, an aircraft maintenance training organization certificate issued under this part.

147.9 Application and Issue

- (a) An application for a certificate and rating, or for an additional rating, under this part is made on a form and in a manner prescribed by the Director General, and submitted with:
- (1) Training procedure manual;
 - (2) A description of the proposed curriculum and syllabus;
 - (3) A list of the facilities;
 - (4) A list of instructional equipment;
 - (5) A list of shop equipment;
 - (6) A list of instructors and assessor, including the kind of certificate, license and ratings held and their license numbers; and
 - (7) A statement of the maximum number of students the organization expects to teach at any one time.
- (b) An applicant who meets the requirements of this part is entitled to an aircraft maintenance training organization certificate and associated ratings prescribing operating specifications and limitations.

147.11 Duration and Renewal Certificate

- (a) A certificate or rating issued to an aircraft maintenance training organization shall remain in force for such period as determined by the DGCA but shall not exceed 2 (two) years from the date of issuance, unless it is surrendered, suspended, or revoked.
- (b) The DGCA may renew the certificate or rating for 2 (two) years if the aircraft maintenance training organization has operated in compliance with the applicable requirements of part 147 within the preceding certificate duration period.
- (c) An aircraft maintenance training organization that applies for a renewal of its certificate must submit its request for renewal no later than 60 days before the aircraft maintenance training organization certificate expires.
- (d) The holder of certificate that is expired, surrendered, suspended, or revoked shall return it to the DGCA.

147.13 through 147.15 [Reserved]

SUBPART B – CERTIFICATION REQUIREMENTS

147.17 Management Personnel Requirements

- (a) Each applicant for a certificate under this part must show that it has sufficient qualified management personnel to provide adequate direction in all operational matters. Such personnel must be employed on a full time basis in at least the following or equivalent position:
 - (1) Accountable manager (who may also be head of training)
 - (2) Head of training
 - (3) Quality manager
 - (4) Instructional manager
- (b) The title of the positions required under paragraph (a) of this section or the title and number of equivalent positions of this section shall be set forth in the training organizations Operations Specifications.
- (c) When a training organization intends to change any of its management personnel, the proposal shall be submitted to the DGCA at least 30 days before the date of intended approval by the DGCA. The training organization shall only propose for evaluation by the DGCA after the training organization found that a candidate meets the respective requirements for a management position of this Subpart.

147.19 Minimum Qualifications of Management Personnel

- (a) No person may serve as an Accountable Manager where the DGCA has reason to believe, given the background of such person, that he or she is likely to present a threat to the safe and proper operations of the air carrier.
- (b) No person may serve as Head of Training unless he or she:
 - (1) Has had at least 5 (five) years of experience in the training organization, one year of which must have been in supervisory capacity; and
 - (2) Knows the contents of the training procedure manual and operations specifications, and the provisions of this part necessary to the proper performance of his or her duties.
- (c) Except as provide in paragraph (e), no person may serve as Quality Manager unless he or she:
 - (1) Hold an appropriate Basic Certificate under part 65 at least 5 (five) years;
 - (2) Has had at least 3 (three) years of experience as an instructor and/or administration the training organization, one year of which must have been in a supervisory capacity;
 - (3) Knows the contents of the training procedure manual and operations specifications;
 - (4) Familiar with the applicable regulations in part 65 and 147; and
 - (5) Familiar with audit techniques and procedures.
- (d) Except as provide in paragraph (e), no person may serve as Instructional Manager unless he or she:

- (1) Hold an appropriate Basic Certificate under part 65 at least 5 (five) years;
 - (2) Has had at least 3 (three) years of experience as an instructor and 1 (one) year as an assessor;
 - (3) Knows the contents of the training procedure manual and operations specifications; and
 - (4) Familiar with the applicable regulations in part 65 and 147.
- (e) No person may serve as Quality Manager or Instructional Manager assigned for the training organization with aircraft type training rating unless he or she hold an appropriate AMEL under part 65 at least 5 (five) years.

147.21 Instructor Requirements

The applicant for aircraft maintenance training organization shall:

- (a) Except as provide in paragraph (e), provide instructors, who hold basic certificate with appropriate category under part 65, have extensive experience in the aircraft maintenance and trained in instructional techniques necessary to provide adequate instruction and supervision of the students.
- (b) Provide an appropriate number of instructors at least one instructor for each 25 (twenty five) students in each class.
- (c) Except as provide in paragraph (f), each practical instructor or assessor must hold a license, with appropriate category under part 65 and have at least 3 (three) years of experience in the aircraft maintenance.
- (d) Ensure that specialized instructors who do not have experience in aircraft maintenance are not authorized to give instruction in aircraft maintenance.
- (e) Instructor assigned for the training organization with aircraft type training rating must hold AMEL with appropriate aircraft rating under part 65.
- (f) Practical instructor or assessor assigned for the training organization with aircraft type training rating must holds a valid and current AMEL with appropriate aircraft rating under part 65 at least 3 (three) years.

147.23 Facilities Requirements

- (a) An applicant for aircraft maintenance training organization with basic aircraft maintenance and component type training rating, must have adequate facilities as are appropriate to the rating he seeks, for the maximum number of students expected to be taught at any time:
 - (1) An enclosed classroom suitable for teaching theory classes.
 - (2) Suitable facilities, either central or located in training areas, arranged to assure proper separation from the working space, for parts, tools, materials, and similar articles.
 - (3) Suitable area for application of finishing materials, including paint spraying.
 - (4) Suitable areas equipped with wash tank and degreasing equipment with air pressure or other adequate cleaning equipment.
 - (5) Suitable facilities for running engines.

- (6) Suitable area with adequate equipment, including benches, tables, and test equipment, to disassemble, service, and inspect:
 - i. Ignition, electrical equipment, and appliances;
 - ii. Instrument system;
 - iii. Radio navigation and communication system;
 - iv. Carburettors and fuel systems; and
 - v. Hydraulic and vacuum systems for aircraft, aircraft engines, and their appliances.
- (7) Suitable space with adequate equipment, including tables, benches, stands, and jacks, for disassembling, inspecting, and rigging aircraft.
- (8) Suitable space with adequate equipment for disassembling, inspecting, assembling, troubleshooting, and timing engines.
- (b) The applicant of aircraft maintenance training organization with aircraft type training rating must have adequate facilities as are appropriate to the rating he seeks, for the maximum number of students expected to be taught at any time:
 - (1) An enclosed classroom suitable for teaching theory classes.
 - (2) Suitable facilities, either central or located in training areas, arranged to assure proper separation from the working space, for parts, tools, materials, and similar articles.
 - (3) Suitable space with adequate equipment for inspecting and servicing aircraft.

147.25 Instructional equipment requirements

- (a) An applicant for aircraft maintenance training organization with basic aircraft maintenance training rating, or for an additional rating, must have such of the following instructional equipment as is appropriate to the rating he seeks:
 - (1) Various kinds of airframe structures, airframe systems and components, powerplants, and powerplant systems and components (including propellers), of a quantity and type suitable to complete the practical projects required by its approved curriculums.
 - (2) At least one aircraft of a type currently certificated by DGCA for private or commercial operation, with powerplant, propeller, instruments, navigation and communications equipment, landing lights, and other equipment and accessories on which a maintenance technician might be required to work and with which the technician should be familiar.
- (b) The instructional equipment required by paragraph (a) of this section
 - (1) need not be in an airworthy condition. However, if it was damaged, it must have been repaired enough for complete assembly.
 - (2) must be so diversified as to show the different methods of construction, assembly, inspection, and operation when installed in an aircraft for use. There must be enough units so that not more than eight students will work on any one unit at a time
 - (3) If the aircraft used for instructional purposes does not have retractable landing gear and wing flaps, the training organization must provide training aids, or operational mock-ups of them

- (c) An applicant for aircraft maintenance training organization with aircraft type training rating must have access to the appropriate aircraft type. Synthetic training devices may be used when such synthetic training devices ensure the practical projects required by its approved curriculums completed.

147.27 Material, special tool and shop equipment requirements

- (a) An applicant for aircraft maintenance training organization certificate, or for an additional rating, must have an adequate supply of material, special tools, and equipment as are appropriate to the approved curriculum of the training organization and are used in constructing and maintaining aircraft, to assure that each student will be properly instructed. The special tools and equipment must be in satisfactory working condition for the purpose for which they are to be used.
- (b) In addition of paragraph (a) above, an applicant for aircraft maintenance training organization with basic aircraft maintenance rating must have an adequate shop equipment as are appropriate to the approved curriculum of the training organization and are used in constructing and maintaining aircraft, to assure that each student will be properly instructed. The shop equipment must be in satisfactory working condition for the purpose for which they are to be used.

147.29 General curriculum requirements

- (a) An applicant for aircraft maintenance training organization must have an approved curriculum that is designed to qualify his students to perform the duties of an engineer for a particular category or rating.
- (b) The curriculum for basic aircraft maintenance training must cover the subject as specified in Appendix A of CASR Part 65, and must offer at least the following number of hours of instruction for the rating shown, and the instruction unit hour shall not be less than 50 minutes in length:
 - (1) A1.3 : 3000 hours
 - (2) A1.4 : 3000 hours
 - (3) A2.3 : 3000 hours
 - (4) A2.4 : 3000 hours
 - (5) C : 3000 hours
- (c) The curriculum for aircraft type training must cover the subject as specified in Appendix B of CASR Part 65, and instruction hours approved by DGCA.
- (d) The curriculum shall include:
 - (1) The instruction hours for each subject;
 - (2) The practical projects to be completed;
 - (3) A list of the minimum required tests to be given.

147.31 Training Procedures Manual

- (a) An applicant for aircraft maintenance training organization shall provide the Director General a Training Procedures Manual accepted by DGCA.
- (b) The Training Procedure Manual shall have statement of compliance; signed declaration by the accountable manager.
- (c) The training organization shall ensure that the Training Procedure Manual is amended as necessary to keep the information contained therein up to date.
- (d) The Training Procedure Manual shall have procedures to control, amend and distribute the training procedure manual and all amendments promptly to all organizations or persons to whom the manual has been issued. The training organization is responsible for seeing that all personnel thoroughly understand the training procedure manual;
- (e) The Training Procedure Manual may be issued in separate parts, and shall contain at least the following information:
 - (1) a chart and description of the training organizations, and the names of the management personnel;
 - (2) a description of qualification, duties and responsibilities of the management personnel as required by section 147.17 and 147.19;
 - (3) a description of rating or the scope of training authorized under aircraft maintenance training organization certificate;
 - (4) a description of training curriculum and syllabus;
 - (5) a description of training facilities, instructional equipment and material, special tool and shop equipment;
 - (6) a list of training instructors and assessor;
 - (7) training enrolment procedure, including training preparation and conduct of training as describe in section 147.37;
 - (8) credit for previous experience or instruction procedure as describe in section 147.37(c);
 - (9) quality assurance system procedure, in accordance with 147.49;
 - (10) training record procedure as describe in section 147.39;
 - (11) sample of form to be used;
 - (12) training examination procedure including examination preparation and grading criteria, if AMTO has examining authorization in accordance with subpart D of this part; and
 - (13) procedure to ensure that curriculum objectives are being met.

147.33 through 147.35 [Reserved]

SUBPART C – OPERATING RULES

147.37 Attendance, Enrollment, Tests, And Credit For Prior Instruction

- (a) An aircraft maintenance training organization may not require any student to attend classes of instruction more than 8 hours in any day or more than 6 days or 40 hours in any 7-day period.
- (b) Each aircraft maintenance training organization shall give an appropriate test to each student who completes a unit of instruction as shown in that aircraft maintenance training organization's approved curriculum.
- (c) An aircraft maintenance training organization may not graduate a student unless he has completed all of the appropriate curriculum requirements. However, the training organization may credit a student with instruction as follows:
 - (1) An aircraft maintenance training organization may credit a student with instruction satisfactorily completed at—
 - (i) An accredited university or academy;
 - (ii) An aircraft maintenance training organization.
 - (2) An aircraft maintenance training organization may determine the amount of credit to be allowed—
 - (i) By an entrance test equal to one given to the students who complete a comparable required curriculum subject at the crediting training organization;
 - (ii) By an evaluation of an authenticated transcript from the student's former training organization.
 - (3) An aircraft maintenance training organization may credit a student seeking an additional category or rating with previous satisfactory completion of the general portion of an AMTO curriculum.
- (d) An aircraft maintenance training organization may not have more students enrolled than the number stated in its application for a certificate, unless it amends its application and has it approved.
- (e) An aircraft maintenance training organization shall use an approved system for determining final course grades and for recording student attendance. The system must show hours of absence allowed and show how the missed material will be made available to the student.

147.39 Records

- (a) Each aircraft maintenance training organization shall keep a current record for each student enrolled, showing:
 - (1) His attendance, tests, and grades received on the subjects required by this part;
 - (2) The instruction credited to him under 147. 37(c), if any; and
 - (3) The authenticated transcript of his grades from that training organization.

It shall retain the record for at least five years after the end of the student's enrollment, and shall make each record available for inspection by the DGCA during that period.

- (b) Each aircraft maintenance training organization shall keep a current progress chart or individual progress record for each of its students, showing the practical projects or laboratory work completed, or to be completed, by the student in each subject.

147.41 Transcripts and graduation certificates

- (a) Upon request, each Aircraft Maintenance Training Organization shall provide a transcript of the student's grades to each student who is graduated from that aircraft maintenance training organization or who leaves it before being graduated. An official of the training organization shall authenticate the transcript. The transcript must state the curriculum in which the student was enrolled, whether the student satisfactorily completed that curriculum, and the final grades the student received.
- (b) Each aircraft maintenance training organization shall give a graduation certificate or certificate of completion to each student that it graduates. An official of the training organization shall authenticate the certificate. The certificate must show the date of graduation and the approved curriculum title.

147.43 Maintenance of instructor requirements

- (a) Each approved aircraft maintenance training organization shall, after certification or addition of a rating, continue to provide the number of instructors holding appropriate license, certificates, and ratings that the Director General determines necessary to provide adequate instruction to the students, including at least one such instructor for each 25 students in each class.
- (b) The organization may continue to provide specialist instructors who are not license, certificates, and ratings to teach mathematics, physics, drafting, basic electricity, basic hydraulics, and similar subjects.

147.45 Maintenance of facilities, equipment, and material

- (a) Each aircraft maintenance training organization shall continue to provide facilities and equipment equal to the standards required at the time of initial issue of the certificate and rating that it holds.
- (b) An aircraft maintenance training organization may not make a substantial change in facilities and equipment that have been approved for a particular curriculum, unless that change is approved in by the Director General, in advance.

147.47 Maintenance of curriculum requirements

- (a) Each aircraft maintenance training organization shall adhere to the approved curriculum.
- (b) An aircraft maintenance training organization may not change its approved curriculum unless the change is approved by the Director General, in advance.

147.49 Quality Assurance System

An aircraft maintenance training organization shall establish a quality assurance system, acceptable to the DGCA, which ensures that training and instructional practices comply with requirements of this part including the following activities:

- (a) monitor training enrollment;
- (b) monitor testing methods;
- (c) monitor instructor qualifications and training;
- (d) monitor training facilities, instructional equipment and material, special tool and shop equipment;
- (e) conduct internal and external audits and monitor corrective and preventive actions.

147.51 Display of certificates

Each holder of an aircraft maintenance training organization certificate and ratings shall display the certificate and ratings at a place that is normally accessible to the public and is not obscured. The certificate must be available for inspection by the Director General.

147.53 Change of location

- (a) The holder of an aircraft maintenance training organization certificate may not make any change in the location of the facility unless the change is approved in advance by the Director General.
- (b) Notification of change of location shall be made to the Director General, in writing, at least 30 days before the date the change is contemplated.
- (c) If the aircraft maintenance training organization changes its location without approval, the certificate is suspended or revoked.

147.55 Inspection

The Director General, may, at any time, inspect an aircraft maintenance training organization to determine its compliance with this part.

147.57 Advertising

An aircraft maintenance training organization shall not make any statement relating to the organization that is false or is designed to mislead any person considering enrolment therein.

147.59 through 147.61 [Reserved]

SUBPART D - EXAMINING AUTHORITY

147.63 Applicability

This subpart prescribes the requirements for the issuance of examining authority to the holder of an aircraft maintenance training organization, and the privileges and limitations of that examining authority.

147.65 Examining authority qualification requirements

- (a) An aircraft maintenance training organization must meet the following prerequisites to receive initial approval for examining authority:
 - (1) The organization must complete the application for examining authority on a form and in a manner prescribed by the Director;
 - (2) The organization must hold an aircraft maintenance training organization and type of training rating issued under this part;
 - (3) The organization must have held the training in which examining authority is sought for at least 24 consecutive calendar months preceding the month of application for examining authority;
 - (4) The training for which examining authority is requested must meet the instruction hours required by this part; and
 - (5) Within 24 calendar months before the date of application for examining authority, that organization must meet the following requirements:
 - (i) The organization must have given the complete training for which examining authority is sought, to at least 20 students and recommended those students for a basic certificate, license or rating; and
 - (ii) At least 80 percent of those students passed the required knowledge test, for the basic certificate, license or rating on the first attempt, and that test was given by DGCA.
- (b) An aircraft maintenance training organization must meet the following requirements to retain approval of its examining authority:
 - (1) The organization must complete the application for renewal of its examining authority on a form and in a manner prescribed by the Director;
 - (2) The organization must hold an aircraft maintenance training organization and type of training rating issued under this part;
 - (3) The organization must have held the rating for which continued examining authority is sought for at least 24 calendar months preceding the month of application for renewal of its examining authority; and
 - (4) The training for which examining authority is requested must meet the instruction hours required by this part.

147.67 Privileges.

An aircraft maintenance training organization that holds examining authority may recommend a person for the basic certificate, license or rating without taking the DGCA knowledge test, provided;

- (a) the person being recommended has graduated from the appropriate type of training approved for that organization,
- (b) the candidate was deemed to have passed the knowledge tests as applicable and meets all other licensing requirements relating to that basic certificate, license or rating.

147.69 Limitations and reports.

- (a) An aircraft maintenance training organization that holds examining authority may only recommend the issuance of a basic certificate, license or rating to a person who does not take a DGCA knowledge test,
- (b) Tests given by an aircraft maintenance training organization that holds examining authority must be at least equal in scope, depth, and difficulty to the comparable knowledge prescribed in part 65.
- (c) An aircraft maintenance training organization that holds examining authority may not use its knowledge tests if the organization:
 - (1) Knows, or has reason to believe, the test has been compromised; or
 - (2) Is notified by DGCA that there is reason to believe or it is known that the test has been compromised.
- (d) When a student passes the knowledge test, an aircraft maintenance training organization that holds examining authority must submit the test result to DGCA.

147.71 through 147.73 [Reserved]