



Australian Government

Civil Aviation Safety Authority

I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 147.015 of the *Civil Aviation Safety Regulations 1998*.

[Signed John F. McCormick]

John F. McCormick
Director of Aviation Safety

16 February 2011

Manual of Standards Part 147 Instrument 2011

1 Name of instrument

This instrument is the *Manual of Standards Part 147 Instrument 2011*.

2 Commencement

This instrument commences on 27 June 2011.

3 Manual of Standards (MOS) Part 147

Schedule 1 makes MOS Part 147.

Schedule 1 Manual of Standards (MOS) Part 147

Maintenance training organisation

Subpart A General

147.A.05 Scope

- (a) This is the MOS for Part 147 of the *Civil Aviation Safety Regulations 1998 (CASR 1998)*.
- (b) This MOS sets out the requirements to be met by an organisation holding an approval issued under Part 147 of CASR 1998 to conduct training and assessment. Definitions of words or terms used in CASR 1998 have application in this MOS.

147.A.07 Definitions

In this MOS:

feedback system, for a quality system, means the process that, in response to the quality system determining a variation in quality that significantly affects training and assessment, informs the accountable manager, responsible managers and independent auditors of the variation and proposes remedial, corrective and preventative actions required to correct deficiencies in control policies, procedures and processes that led to the variation in quality.

MTO means maintenance training organisation.

recognition of prior learning (RPL) means prior learning that has delivered knowledge or competency by a theoretical or practical element, which is at least

equivalent to the knowledge, competency, theoretical or practical element that is otherwise required in the absence of RPL.

Note Under provisions of this MOS, passing examinations, holding units of competency and holding prerequisite qualifications or prerequisite units of competency may be by means of RPL.

teaching staff means instructors and assessors.

147.A.10 General

An MTO that seeks approval to conduct category training must be a registered training organisation (**RTO**). An MTO that seeks approval only to conduct type training does not need to be a RTO.

147.A.15 Application

An application for an approval or for the amendment of an existing approval must be made in a form approved by CASA.

Subpart B Organisational requirements

147.A.100 Facility requirements

- (a) An MTO must provide maintenance training and assessment in facilities with weather protection that is adequate for the proper provision of maintenance training and assessment.
- (b) In addition, the facilities that the MTO uses for the provision of theory training and theory assessment must be:
 - 1. fully enclosed; and
 - 2. separate from facilities used by the MTO to provide practical training and practical testing; and
 - 3. designed so that for assessments no student can read the paperwork or computer screen of any other student from his or her position during an assessment.
- (ba) The maximum number of students undergoing knowledge training during any training course must not exceed 28.
- (c) An MTO must ensure the environment described in paragraph 147.A.100 (b) is maintained in a way that ensures students can concentrate during training or examinations without undue distraction or discomfort (including adequate heating and cooling and protection from loud noise).
- (d) If an MTO provides a category training course or category training workshops, maintenance facilities separate from training classrooms must be provided for practical instruction appropriate to the training course. If, however, the MTO is unable to provide such facilities, arrangements may be made with another organisation to provide such workshops or maintenance facilities, in which case a written agreement must be made with the organisation specifying the conditions of access. The agreement must include a requirement that the contracted organisation must give CASA access to its facilities.
- (e) If an MTO provides an aircraft type training course, it must give students access to appropriate facilities containing examples of aircraft types as described in paragraph 147.A.115 (d). If, however, the MTO is unable to provide such facilities, arrangements may be made with another organisation to provide such facilities containing examples of aircraft types, in which case a written agreement must be made with the organisation specifying the conditions of access. The agreement must specify that the contracted organisation must give to CASA access to its facilities.

- (f) An MTO must ensure the maximum number of students undergoing practical training during any training course does not exceed the ratio of students to each member of teaching staff, as set out in the MTO's exposition. The ratio of students to members of teaching staff is determined by the nature of the activity.
- (g) An MTO must provide office accommodation for instructors and assessors of a standard that will ensure that they can prepare for their duties without undue distraction or discomfort (including adequate heating and cooling and protection from loud noise).
- (h) An MTO must provide secure storage facilities for the storage of assessment papers, maintenance training course materials and training records. The storage facilities must be of a type that will ensure these documents remain in good condition for the retention period specified in section 147.A.125.
- (i) An MTO must provide a library that contains the reference material that is appropriate to the maintenance training and assessment provided by the MTO, including examples of maintenance documentation and technical information. In addition, the following conditions must be met:
 - 1. the MTO must keep the reference material up-to-date and in a readily accessible form; and
 - 2. each student and member of the teaching staff must have ready access to the reference material.

147.A.105 Personnel requirements

- (a) An MTO must appoint a person as an accountable manager who has corporate authority for ensuring that the MTO:
 - 1. can finance its maintenance training commitments; and
 - 2. complies with its exposition and this MOS; and
 - 3. has adequate resources available to enable the organisation to provide the maintenance training in accordance with its exposition.
- (b) An MTO must name in its exposition the person, or group of persons, whose responsibilities include ensuring that the MTO complies with the requirements of this MOS and its exposition (known as the responsible manager). If the responsible manager is not the accountable manager, then the responsible manager must report to the accountable manager. The responsible manager may be the same person as the accountable manager.
- (c) An MTO must appoint a sufficient number of suitably qualified teaching staff to carry out maintenance training and assessment in accordance with the MTO's exposition. The MTO must only appoint a person as a member of the teaching staff if the person meets the selection criteria mentioned in paragraph (f).
- (d) An MTO may use another organisation to provide practical training and assessments if it has procedures in its exposition detailing how this will occur.
- (e) A person may carry out any combination of the roles of instructor and assessor, in accordance with the selection criteria and duty statements referred to in paragraph (f).
- (f) An MTO must prepare selection criteria and duty statements for its teaching staff.
- (g) An MTO must list the name of its assessors in its exposition.
- (h) An MTO must ensure that teaching staff undertake a professional development course at least once every 2 years that is:
 - 1. appropriate to the person's role; and

2. relevant to each of the following:
 - (i) current technology;
 - (ii) practical skills;
 - (iii) human factors;
 - (iv) training techniques.

147.A.106 Qualifications for assessors

Assessors for category training

- (a) An MTO must only appoint a person to be an assessor for category training if the person has the following competencies:
 1. the competencies, or equivalent competencies, from the Training Package for Assessment and Workplace Training of the Department of the State or Territory that administers education and training, as follows:
 - (i) TAAASS401A – plan and organise assessment;
 - (ii) TAAASS402A – assess competence;
 - (iii) TAAASS404A – participate in confirming assessment;
 2. relevant vocational knowledge and skills to at least the level that is being assessed; or
 3. for subparagraph (a) 1, alternative equivalent competencies approved, in writing, by CASA.
- (b) In spite of paragraph 147.A.106 (a), an MTO may appoint 2 persons as assessors to jointly perform assessment for category training, if:
 1. 1 of the persons has the competencies required under subparagraph (a) 1; and
 2. the other person has the knowledge and skills required under subparagraph (a) 2.

Assessors for aircraft type training

- (c) An MTO must only appoint a person to be an assessor for type training if the person:
 1. meets the qualification and experience standards set out in the MTO's exposition for an assessor for aircraft type training, including the standards for each of the following areas:
 - (i) planning and organising assessment;
 - (ii) assessing competence;
 - (iii) participating in confirming assessment.
 2. has the vocational knowledge and skills set out in the MTO's exposition for the aircraft type training that is being assessed.

RPL assessors for category and aircraft type training

- (d) An RPL assessor is an employee of an MTO who does the following:
 1. meets the minimum qualifications and experience standards set out in the MTO's exposition for the conduct of RPL evaluations; and
 2. is appointed, in writing, by the MTO to conduct the RPL evaluations.
- (e) If no standards are set out in the exposition for RPL evaluations as part of an assessment for a particular rating, the MTO may not use RPL in assessment for the rating.

147.A.110 Records of instructors and assessors

- (a) An MTO must keep records about all of its instructors and assessors, recording the experience, qualifications, training history, including training with the MTO.
- (b) A record mentioned in paragraph 147.A.110 (a) must be kept by an MTO for at least 5 years after the person for whom it is made ceases to be employed by the MTO.

147.A.115 Instructional equipment

- (a) An MTO must equip each classroom that is used to provide maintenance training and assessment with equipment for use by teaching staff in a manner that is appropriate for the conduct of the training and assessment, and in particular:
 - 1. the equipment must be of a standard that ensures all students can easily read any text, drawings, diagrams and figures presented by a member of the teaching staff;
 - 2. the equipment may include synthetic training devices for the type training that is being provided.
- (b) If an MTO provides category training workshops and/or maintenance facilities of the type described in paragraph 147.A.100 (e), it must have, for each facility that is used for the conduct of the training, tools and equipment necessary for the training.
- (c) In addition to paragraph (b), an MTO must have an appropriate selection of aircraft, engines, aircraft parts, and avionic equipment.
- (d) An MTO conducting training of the type described in paragraph 147.A.100 (f) must provide students with access to an appropriate aircraft type.
- (e) An MTO conducting training of the type described in paragraph 147.A.100 (f) may use synthetic training devices where such synthetic training devices ensure adequate training.

147.A.120 Maintenance training material

- (a) An MTO must provide to each student who is undertaking a maintenance training course conducted by the MTO, materials that are in accordance with the course plan that cover the following:
 - 1. the required subject modules and required units of competency for the relevant category of licence;
 - 2. the category knowledge syllabus specified in Part 66 of CASR 1998 for the relevant aircraft maintenance licence category or subcategory;
 - 3. the type course content required by Part 66 of CASR 1998 for the relevant aircraft type and aircraft maintenance licence category or subcategory.
- (b) An MTO must provide to students access to examples of maintenance documentation and technical information of the library specified in paragraph 147.A.100 (j).
- (c) An MTO must have in its exposition a control procedure for the production, updating and distribution of all maintenance training materials.

147.A.122 Course plans

- (a) An MTO must have a course plan for each maintenance training course that it delivers.
- (b) An MTO must include in the course plan all of the following information:
 - 1. the course content;
 - 2. any prerequisites for the course;
 - 3. the qualifications of the teaching staff for the course;

4. if the course is practical training — the student numbers for the training;
5. if the course is aircraft type training — how the course will meet the requirements and standards determined under paragraph 66.015 (2) (n) of Part 66 of CASR 1998;
6. the duration of the course and the delivery timetable for the course;
7. an outline of course materials for the course;
8. details of the use (if any) of synthetic training devices for the course;
9. details of the proposed assessment for the course, including its duration;
10. details of how RPL will be assessed as meeting any of the requirements of the course.

147.A.125 Records

- (a) An MTO must, for each student, keep a written record of all maintenance training and any assessment undertaken by the student.
- (b) The record must be kept for at least 5 years after the last entry for the student was made.
- (c) An MTO must, upon request by the student, provide a document summarising 1 or both of the following:
 1. the student's course record;
 2. any record kept by the MTO about any qualification granted to, or course completed by, the student.
- (d) An MTO must, at CASA's request, make the records, or copies of the records, available for inspection by CASA in the time frame required.
- (e) For this section, a *student* includes a person who has been assessed by an MTO for RPL and has not undertaken maintenance training with the MTO.

147.A.130 Training procedures and quality management system

- (a) An MTO must establish procedures in its exposition that will ensure proper training standards and compliance with all relevant requirements in this MOS.
- (b) An MTO must establish in its exposition a quality management system that must include all of the following:
 1. control procedures to ensure compliance with this MOS, including those covering circumstances where:
 - (i) the MTO arranges for another person to provide particular resources; or
 - (ii) the MTO uses a temporary facility; and
 2. the performance of annual (or as described in the exposition) independent audits to monitor:
 - (i) the MTO's maintenance training standards; and
 - (ii) the integrity of assessments done by the MTO; and
 - (iii) compliance with and adequacy of the MTO's procedures; and
 3. a remedial, corrective and preventative plan that includes:
 - (i) a feedback system of audit findings to the accountable manager and each responsible manager; and
 - (ii) a way of ensuring that the feedback system includes the taking of any necessary corrective action by the MTO; and

4. a system for regular review of the quality management system to ensure its continuing suitability, adequacy and effectiveness, including assessment of opportunities for improvement and the need for changes to the quality system.
- (c) For subparagraph (b) 2, the quality management system must provide for the audit to be performed by a suitably qualified person who is independent of the person with responsibility for the MTO's quality management system.

147.A.135 Assessments

- (a) An MTO's assessment staff must ensure the security of all assessment questions.
- (b) If a student is found to have cheated in an assessment, the MTO must:
 1. declare the student's assessment void; and
 2. not permit the student to take any assessment for at least 12 months from the day of the declaration; and
 3. give CASA notice, in writing, of the details of the cheating within a month of the making of the declaration; and
 4. upon request, provide CASA with further information about the cheating.
- (c) If a member of the teaching staff of an MTO provides assessment answers to a student being assessed or otherwise assists a student to cheat, the MTO must:
 1. disqualify the person from being an assessor; and
 2. declare the assessment void in accordance with the MTO's control procedures; and
 3. give CASA notice, in writing, of the details of the incident, including the name of the staff member, within 28 days of the disqualification; and
 4. provide CASA with such further information about the incident as CASA requests.
- (d) In paragraph 147.A.135 (b), cheating includes any student found during an assessment to be cheating, or in possession of material pertaining to the assessment subject other than the assessment papers and associated authorised documentation.
- (e) An MTO must have a control procedure for declaring assessment void in the circumstances mentioned in paragraph (c).

147.A.137 Conducting assessment

- (a) An MTO must conduct an assessment for each maintenance training course that it provides.
- (b) An MTO must ensure that the assessment for a course is provided:
 1. in accordance with any requirements in the relevant determination in the MOS to Part 66 of CASR 1998; and
 2. to the required level for the type training contained in the course.

147.A.138 Qualifications on completion of course

- (a) An MTO must assess a student as completing a maintenance training course only if the student has obtained a pass mark of 75% or more for each unit of competency in category training, or for each element of aircraft type training.
- (b) An MTO must give to each student who successfully completes a course conducted by the MTO:
 1. a certificate that is in accordance with:
 - (i) the approved form; or

- (ii) the MTO's own form set out in its exposition; and
- 2. a summary of the student's records for the course.

147.A.139 Reporting qualifications to CASA

- (a) Within a month of issuing a CASR 147.040 (d) certificate to a student who has successfully completed training and assessment, an MTO, within 14 days of issuing the certificate, must provide a written report to CASA of details of each certificate issued.
- (b) An MTO may include in the report a statement about a student's level of ability to read, write and converse in English, assessed in accordance with the MTO's control procedures.
- (c) An MTO may include in the report a statement about a student's understanding of his or her role as an aircraft engineer licence holder in airworthiness management, assessed in accordance with the MTO's control procedures.
- (d) If an MTO chooses to provide a statement under paragraph (b) or (c), it must have a control procedure in its exposition setting out how such assessment(s) will be made.
- (e) If an MTO assesses a foreign licence or a Defence Force aircraft authorisation for RPL, the MTO must include in a report to CASA a statement about how the foreign or military qualifications:
 - 1. match the requirements for category training for the aircraft engineer licence applied for; or
 - 2. match the requirements for aircraft type training for the rating applied for.

147.A.140 Exposition

- (a) An MTO must provide an exposition for use by the organisation describing the organisation and its procedures and containing the following information:
 - 1. a statement signed by the accountable manager confirming that the exposition and any associated manuals describe the MTO's compliance with this MOS, and must be complied with at all times;
 - 2. the title(s) and name(s) of the person(s) nominated in accordance with paragraph 147.A.105 (b) as responsible managers;
 - 3. the duties and responsibilities of the person(s) specified in subparagraph 2, including matters on which they may deal directly with CASA on behalf of the MTO;
 - 4. an MTO chart showing associated chains of responsibility of the person(s) specified in subparagraph 2;
 - 5. a list of the training instructors and assessors;
 - 6. a general description of the training and assessment facilities located at each address specified in the MTO's approval certificate and, if appropriate, any other location;
 - 7. a list of the maintenance training courses which form the extent of the approval;
 - 8. the MTO's exposition amendment procedure;
 - 9. the MTO's procedures, as required by paragraph 147.A.100 (e) or 147.A.100 (f), for using another organisation's workshops and/or maintenance facilities;
 - 10. the MTO's control procedure, as required by paragraph 147.A.105 (d), when an MTO is authorised to use another organisation to conduct practical training and assessments;

11. a list of the facility locations of the type described in paragraphs 147.A.100 (a), 147.A.100 (e) and 147.A.100 (f);
 12. a list of organisations of the type described in paragraph 147.A.105 (d);
 13. the MTO's procedures regarding the way in which any requirement on the MTO in this MOS will be complied with;
 14. if the MTO has chosen to confirm to CASA any of the following criteria for the grant of a licence — the MTO's procedures on how to confirm to CASR 66.025 criteria for the grant of a licence including:
 - (i) age; and
 - (ii) English proficiency; and
 - (iii) experience requirements;
 15. procedures detailing how the MTO will comply with any of the requirements set out in this MOS.
- (b) An exposition need not contain or set out:
1. the requirements mentioned in paragraph 147.A.140 (a), if those requirements are satisfied by an MTO keeping another document, and the MTO gives to CASA a copy of the document; and
 2. the exposition references that document.
- (c) A document mentioned at paragraph 147.A.140 (b) will be treated as forming part of the exposition.

Subpart C Approved category training course

147.A.200 Category training

An MTO must only carry out CASR Part 66 aircraft category training if it complies with the standard specified in section 66.A.25 of the MOS to Part 66 and is an RTO.

147.A.205 Category training assessments

An MTO approved to conduct aircraft category training must only conduct the category assessments specified in Part 66 of CASR 1998 in accordance with the standard specified in section 66.A.25 of the MOS to Part 66.

Subpart D Aircraft type training

147.A.300 Aircraft type training

An MTO approved to carry out aircraft type training under Part 66 of CASR 1998 must only carry it out in accordance with the standard specified in section 66.A.45 of the MOS to Part 66.

147.A.305 Aircraft type assessments

An MTO approved in accordance with section 147.A.300 to conduct aircraft type training must only conduct aircraft type assessments specified in the MOS to Part 66 of CASR 1998, subject to compliance with the aircraft type specified in section 66.A.45 of the MOS to Part 66.