**Instructor rating**

**Multi-engine aeroplane class rating instructor training endorsement**

#### Version 1.0

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Revision history

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# Syllabus Notes

## Overview of training course

The holder of the multi-engine aeroplane class rating instructor training endorsement is authorised to conduct the following activities;

* + - Conduct flight training for a class rating (multi-engine aeroplane) training endorsement

The multi-engine aeroplane class rating instructor training endorsement is item 15 of table 61.1235 of CASR Part 61.

For the purposes of this document, TE means training endorsement.

A course of training for the multi-engine aeroplane class rating instructor TE provides training and guidance to the applicant on conducting the activities mentioned above as well as ensuring that the applicant has the requisite knowledge and skills.

An applicant for the multi-engine aeroplane class rating instructor TE is required to demonstrate competency conducting instruction in a flight test conducted by a fight examiner to the standards in the Part 61 Manual of Standards (MOS). These standards are prescribed in the following units that are found in Schedule 2 of the Part 61MOS:

* + - NTS1 – Non-technical skills 1
    - NTS2 – Non-technical skills 2
    - FIR4 – Conduct aeronautical knowledge training and flight training
    - FIR-TE15 - Multi-engine aeroplane class rating instructor training endorsement

The applicant must also demonstrate extensive knowledge of the unit of competency FIRC published in the Part 61 MOS.

The following syllabus notes should be read and cross referenced to the ground and flight training summary for FIR TE15 multi-engine aeroplane class rating instructor training endorsement.

The terminology used in these notes and in the ground and flight training summary is as follows:

* + - Applicant – the person who is undertaking the training to obtain a multi-engine aeroplane class rating instructor training endorsement (item 15 in table 61.1235)
    - Instructor – the person delivering the training to the applicant
    - Trainee instructor – the person the applicant would be training

A training record must be completed for all ground and flight training undertaken by the applicant for the multi-engine aeroplane class rating instructor training endorsement.

A course completion certificate must be issued to the applicant by the operator when the training has been successfully completed.

The applicant will hold a grade 1 training endorsement or type rating training endorsement so it can be assumed that they have instructional skills and behaviours commensurate with that qualification. The course then will focus on the application of those skills in training a person for a multi-engine aeroplane

class rating instructor training endorsement whilst ensuring that they (the applicants) has a comprehensive level of knowledge and skill in multi-engine aeroplane operations.

It is assumed that the applicant does not have any previous experience conducting instructor training. If the applicant does have an instructor rating training endorsement (item 14 in table 61.1235) then some of the lessons may be reduced.

Appropriate fault analysis and intervention/recovery techniques should be included in the flight training.

The following notes provide guidance to operators on conducting training for the class rating (multi- engine aeroplane) instructor training endorsement. Training in these topics should adequately prepare an applicant for the flight test. It is not exhaustive and operators may choose to include additional topics in their syllabus.

## Course content

* + - Aeronautical knowledge review
    - Ground training
    - Flight training (including post-flight debriefing and administration)

### Aeronautical Knowledge - Review

#### Lessons TE15-1 to TE15-4

* + - Review the conduct of multi-engine aeroplane class rating instructor training. Use the operator syllabus for the multi-engine aeroplane class rating training endorsement as the blueprint (there is also a sample syllabus on the CASA website). Explain the principles applied, including the order of training events, phases, ground briefings, flight lessons, demonstration and read back.
    - Review the applicant’s knowledge of the structure, content and context of the Part 61 licence and rating standards as they apply to training for multi-engine aeroplane class rating instructor training, endorsement and Instructor Proficiency checks.
    - Review the applicant’s underpinning knowledge described in units of competency for FIRC and FIR-TE15 and AME
    - Applicant should deliver three long briefings relating to the multi-engine class rating. The briefings should demonstrate the applicant has comprehensive knowledge of the subject matter in unit AME and in-depth knowledge of aircraft systems.

### Ground Training

#### Lessons TE15-5 to TE15-8

* + - TE15-5 - This lesson should revise the construct of lesson plans and briefings and guide the applicant in their preparation in relation to a class rating multi-engine aeroplane instructor training endorsement course. The lesson includes the planning of ground and airborne lessons.
    - TE15-6 – In this lesson the instructor should guide the applicant through the techniques of assessing a trainee instructor’s delivery of ground briefings and debriefing techniques. Reference to FIR4 and AC61-07 should provide additional material for this lesson.
    - TE15-7 and TE15-8 – these lessons are aimed at the applicant practising the techniques learnt in lessons TE15-5 and TE15-6. The instructor should ensure that the briefings they deliver provide a broad range of common trainee instructor actions and faults for the applicant to assess and debrief on.

### Flight Training

It must be emphasised that delivery of lessons by both the instructor and applicant, should use the principles of airborne instructional technique ‘Demonstration, Direct and Monitor’ as for any other flight training.

#### Lessons TE15-9 to TE15-18

* + - TE15-9 – the applicant will demonstrate their own flying skill in all phases of multi-engine aeroplane operations. The instructor should observe expert handling in all sequences. The applicant should also demonstrate their airborne instructional technique whilst operating the aircraft including recovery from instructor induced undesired aircraft states.
    - TE 15-10 to TE15-12 – these lessons and tutorials will guide the applicant in how to train a trainee instructor to deliver in-flight lessons for a multi-engine endorsement and undertake fault analysis and correction relevant to multi-engine aircraft operations.
      * The lessons should emphasise the importance of management of in-flight risks associated with one-engine inoperative instructor training and application of risk management techniques to mitigate. The tutorials are contained in AC61-07 and further useful material for this lesson can be found in CAAP5.23-1(2) – multi-engine aeroplane operations and training.
      * The instructor will explain and demonstrate techniques for assessing a trainee instructor using the applicant’s demonstration flight in lesson TE15-9 as an example.
    - TE15-13 and TE15-15 – the aim of these lessons is two-fold. The applicant will demonstrate their own instructional skill and knowledge whilst delivering the lesson as if it is a demonstration to a trainee instructor. The applicant will demonstrate the pre-flight brief and airborne lesson.
      * The instructor should take the opportunity to debrief the applicant as additional demonstration of assessment and debrief technique.
    - TE15-14 and TE15-16 - the instructor will role-play a trainee instructor and read back the previous lesson (pre-flight brief and airborne lesson) as taught by the applicant. The applicant will assess and debrief the instructor as appropriate and apply the demonstrate/direct/monitor technique of instruction.
      * In TE15-16, the instructor should introduce common trainee instructor faults in their read back of both pre-flight brief and airborne lesson to consolidate the applicant’s assessment and debrief techniques.
    - TE15-17 to TE15-19 – these lessons will emphasise to the applicant the importance of training the trainee instructor on intervention and recovery techniques, particularly in the circuit.
      * The tutorial must focus on recognition and recovery and how to guide a trainee instructor to make timely and correct intervention decisions. The tutorials are contained in AC61-07 and further useful material for this lesson can be found in CAAP5.23-1(2) – multi-engine aeroplane operations and training.
      * Lesson TE15-18 - the applicant demonstrates a circuit lesson as if to a trainee instructor, including one-engine inoperative operations and the instructor will read back the instructional lesson as taught. The applicant will assess and debrief the instructor’s performance.
      * Lesson TE15-19 – the instructor will give an in-depth pre-flight brief to the applicant on the content of this lesson and sequences /situations to be demonstrated, and their recovery. The instructor will demonstrate some of the common occurrences that occur in instructor training in multi-engine aeroplanes in the circuit that could result in an undesired aircraft state and the recognition and intervention techniques to apply.
      * The applicant will read back demonstrating their understanding and ability to manage the scenarios.
      * It is imperative that there is clear understanding of hand-over/take-over procedures.
      * The instructor should confirm that the applicant’s lesson plan for training an instructor in multi-engine circuit operations has the identified situations and scenarios covered.

The applicant for the multi-engine aeroplane class rating instructor training endorsement must demonstrate flying techniques and procedures to CPL standard, prescribed in Appendix 8 of the Part 61 MOS, at all times during flight training sessions and be cognisant of the elements specified in units NTS1 and NTS2.

# Guidance for all training courses

This training course covers the relevant aeronautical knowledge, practical flight skills and underpinning knowledge units and elements that are prescribed in the Part 61 MOS.

Each training course should be tailored to the needs of the applicant, taking into account the applicant’s entry level competencies and knowledge and any previous training.

Appropriate recognition of prior learning and current skills should be applied to the content of the training and documented accurately in the training records.

The training course has the following components:

* ground and flight training summary
* planning matrix
* progress and achievement record
* lesson plans and training record (combined)
* course completion certificate.

### Ground and flight training summary

The summary table lists each training session with a reference, its description and the allocated time.

The summary table includes sufficient flight training to meet the requirements that would otherwise be required for the grant of the rating and endorsement in accordance with Part 61. It is a template and can be adjusted according to the entry level of the applicant and the training he or she needs to undertake to satisfy the prescribed competency standards in Schedule 2 of the Part 61 MOS.

### Planning matrix

The planning matrix sets out the order in which the units and elements of training are presented as well as the anticipated performance standards for each lesson. It is a model plan and can be adjusted according to the needs of the applicant at the time the training is being conducted.

### Achievement record

The achievement record is a record of the applicant achieving the practical flight standards prescribed for the rating and endorsement. The record should be progressively completed when the applicant has satisfactorily demonstrated competency for the unit and element on at least two occasions.

Applicants must achieve competency at performance standard 1 in each element of each unit in this achievement record. The performance criteria for the elements are prescribed in Schedule 2 of the Part 61 MOS.

The applicant may demonstrate competency using a combination of training course assessments and assessments of current competency achieved through prior training and operational experience.

The instructor conducting the training and assessments must certify that competency has been achieved by entering the details in achievement record entering their ARN, signature and the date when the applicant achieved the required competency performance standard.

### Lesson plans and training record

A lesson plan is provided for each lesson listed in the planning matrix. Each lesson plan details the aeronautical knowledge topics and relevant underpinning knowledge topics that should be covered. The lesson plans include a breakdown of the estimated time required for the long briefing and pre-flight briefing, where applicable.

The resources described in the lesson plan can be modified with suitable equivalent resources.

The underpinning knowledge topics are taken from the relevant sections of the units of competency.

The practical flight training section details the units and elements covered by the lesson that are prescribed in Schedule 2 of the Part 61 MOS. The relevant general instructor units are FIR1, 2 and 3; however, these have been consolidated into a new draft unit FIR4 that is attached at Appendix A along with unit FIR-TE15 at Appendix B. FIR-TE15 is the unit for multi-engine aeroplane class rating instructor training endorsement. The underpinning knowledge topics are also taken from this draft unit. Reference is also made to applicable units in Schedule 2 of the Part 61 MOS.

The lesson comments and outcomes section of the lesson plan and training record should record the performance of the applicant in the particular lesson. Where the applicant has not achieved the standard in any or all of the elements, particular note must be made of the elements or performance criteria where the applicant requires further or remedial training. Additionally, the instructor trainer must clearly indicate that the applicant can proceed to the next lesson sequence.

### Course completion certificate

A sample course completion certificate is included.

# Ground and flight training summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LESSON NUMBER** | **MOS REF** | **LESSON DESCRIPTION** | **GROUND HOURS** | **DUAL HOURS** | **TOTAL PROG FLIGHT TIME** |
| The terminology used in this ground and flight training summary and the associated syllabus notes is as follows:   * **Applicant** – the person who is undertaking the training to obtain a multi-engine aeroplane class rating instructor training endorsement (item 15 in table 61.1235) * **Instructor** – the person delivering the training to the applicant * **Trainee instructor** - the person the applicant would be training | | | | | |
| **Aeronautical Knowledge - Review** | | | | | |
| TE15-1 | FIR-TE15.1 | Lesson – The conduct of training for the multi-engine class rating training endorsement. Review Part 61 and Part 61 MOS competency standards in relation to class rating (multi-engine aeroplane) endorsement and class rating (multi-engine aeroplane) instructor training endorsement | 3.0 |  |  |
| TE15-2 | FIR-TE15.2 | Review unit FIRC and underpinning knowledge required for unit FIR-TE15 | 3.0 |  |  |
| TE15-3 | FIR-TE15.3; FIR- TE15.4 | Review the unit AME and the underpinning knowledge | 6.0 |  |  |
| TE15-4 | FIR-TE15.3; FIR- TE15.4 | Applicant to deliver three briefs for multi-engine class rating training endorsement. Instructor assess applicant is to standard required of holder of multi- engine class rating training endorsement (FIR-TE6) | 6.0 |  |  |
| **Ground Training** | | |  |  |  |
| TE15-5 | FIR-TE15.5 | Lesson – Prepare lessons plans and briefings for a flight instructor multi-engine class rating training endorsement training course | 3.0 |  |  |
| TE15-6 | FIR-TE15.3 | Lesson – assessing a trainee instructor’s delivery of ground briefings | 1.5 |  |  |
| TE15-7 | FIR-TE15.3; FIR- TE15.8 | Conduct multi-engine instructor training 1 - long brief  – instructor deliver, applicant de-brief | 2.0 |  |  |
| TE15-8 | FIR-TE15.3; FIR- TE15.8 | Conduct multi-engine instructor training 2 – long brief - instructor deliver, applicant de-brief | 2.0 |  |  |
| **Flight Training** | | |  |  |  |
| TE15-9 | FIR-TE15.4 | Airborne – applicant demonstrate their own skill in all phases of multi-engine flight | 1.0 | 1.0 | 1.0 |
| TE15-10 | FIR-TE15.6; FIR- TE15.7 | Lesson – managing the high risk environment of multi-engine training | 1.5 |  |  |
| TE15-11 | FIR-TE15.7 | Lesson – assessing a trainee instructor delivery of in- flight lesson | 1.5 |  |  |
| TE15-12 | FIR4 | FIR Tutorial - fault analysis and correction | 1.5 |  |  |
| TE15-13 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Airborne – applicant deliver pre-flight and in-flight lesson, instructor to assess to standard of TE6 | 1.0 | 1.0 | 2.0 |
| TE15-14 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Conduct multi-engine instructor training 1 – pre-flight and air exercise – instructor deliver, applicant de-brief  – notes introduce faults etc. | 1.0 | 1.0 | 3.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LESSON NUMBER** | **MOS REF** | **LESSON DESCRIPTION** | **GROUND HOURS** | **DUAL HOURS** | **TOTAL PROG FLIGHT TIME** |
| TE15-15 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Airborne – applicant deliver pre-flight and in-flight lesson, instructor to assess to standard of TE6 | 1.0 | 1.0 | 4.0 |
| TE15-16 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Conduct multi-engine instructor training 2 – pre-flight and air-exercise - instructor deliver, applicant de-brief (notes might need more) | 1.0 | 1.0 | 5.0 |
| TE15-17 | FIR4 | FIR Tutorial – intervention and recovery techniques | 1.5 |  |  |
| TE15-18 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Airborne – circuit lesson applicant demonstrate, instructor read back and applicant assess and debrief | 1.5 | 1.0 | 6.0 |
| TE15-19 | FIR-TE15.6; FIR- TE15.7; FIR- TE15.8 | Airborne – demonstration and read back - intervention in the circuit | 1.5 | 1.0 | 7.0 |
|  |  | **Flight Test** | **4.0** | **1.5** | **8.5** |

# Progress and achievement record

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Trainee’s name** |  | | **Trainee’s ARN** |  |  |
| **Date training commenced** |  | | **Date of assessment of prior learning and current competency (if applicable)** |  |  |
| **Date of Aeronautical Knowledge Examination pass (if applicable)** | |  | **Date of Knowledge Deficiency Report assessment (if applicable)** | |  |

## Trainee progress record

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LESSON** | **DATE** | **STD ACHIEVED?1** | **DATE2** | **\*STD ACHIEVED?** | **DATE2** | **STD ACHIEVED?1** | **FLIGHT HOURS** | **PROG HOURS** | **INSTRUCTOR ARN AND SIGNATURE** |
| TE15-1 |  |  |  |  |  |  |  |  |  |
| TE15-2 |  |  |  |  |  |  |  |  |  |
| TE15-3 |  |  |  |  |  |  |  |  |  |
| TE15-4 |  |  |  |  |  |  |  |  |  |
| TE15-5 |  |  |  |  |  |  |  |  |  |
| TE15-6 |  |  |  |  |  |  |  |  |  |
| TE15-7 |  |  |  |  |  |  |  |  |  |
| TE15-8 |  |  |  |  |  |  |  |  |  |
| TE15-9 |  |  |  |  |  |  |  |  |  |
| TE15-10 |  |  |  |  |  |  |  |  |  |
| TE15-11 |  |  |  |  |  |  |  |  |  |
| TE15-12 |  |  |  |  |  |  |  |  |  |
| TE15-13 |  |  |  |  |  |  |  |  |  |
| TE15-14 |  |  |  |  |  |  |  |  |  |
| TE15-15 |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LESSON** | **DATE** | **STD ACHIEVED?1** | **DATE2** | **\*STD ACHIEVED?** | **DATE2** | **STD ACHIEVED?1** | **FLIGHT HOURS** | **PROG HOURS** | **INSTRUCTOR ARN AND SIGNATURE** |
| TE15-16 |  |  |  |  |  |  |  |  |  |
| TE15-17 |  |  |  |  |  |  |  |  |  |
| TE15-18 |  |  |  |  |  |  |  |  |  |
| TE15-19 |  |  |  |  |  |  |  |  |  |

1: Indicate YES if trainee has achieved competency in accordance with the lesson plan and can progress to next lesson, indicate NO if trainee to repeat this lesson 2: Complete when trainee repeats lesson

## Trainee competency achievement record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ELEMENT** | **DATE** | **INSTRUCTOR NAME (PRINTED)** | **INSTRUCTOR ARN** | **INSTRUCTOR’S SIGNATURE** |
| FIR-TE15.1 - Describe the conduct of multi-engine aeroplane class rating instructor training |  |  |  |  |
| FIR-TE15.2 - Demonstrate understanding of principles and methods of instruction |  |  |  |  |
| FIR-TE15.3 - Conduct aeronautical knowledge training |  |  |  |  |
| FIR-TE15.4 - Demonstrate competencies required of a holder of a class rating (multi-engine aeroplane) training endorsement |  |  |  |  |
| FIR-TE15.5 - Develop briefings and plan flight training for a class rating multi-engine aeroplane instructor training endorsement |  |  |  |  |
| FIR-TE15.6 - Conduct pre-flight briefing for training flights |  |  |  |  |
| FIR-TE15.7 - Conduct airborne training for a multi-engine class rating training endorsement |  |  |  |  |
| FIR-TE15.8 - Conduct post-flight briefing |  |  |  |  |
| FIR-TE15.9 - Complete post-training administration |  |  |  |  |

### Trainee’s confirmation

|  |  |  |  |
| --- | --- | --- | --- |
| I have received the training specified above and have been certified as competent and ready for flight test. | | | |
| **Trainee’s signature** |  | **Date** |  |

# Course completion certificate

|  |  |
| --- | --- |
| **Name of course** | Multi-engine aeroplane class rating instructor training endorsement |
| **Training provider name** |  |
| **Training provider ARN** |  |
| **Trainee name** |  |
| **Trainee ARN** |  |
| **Date commenced training** |  |
| **Date of final assessment** |  |
| **Certification** |  |
| **Head of Operations name or approved Course Manager** |  |
| **Signature** |  |
| **Date** |  |

**Appendix A**

**Draft competency unit – FIR4**

**{Insert copy of unit from**

**Part 61 Manual of Standards Schedule 2}**

**Appendix B**

**Draft unit – Multi-engine aeroplane class rating instructor training endorsement - FIR-TE15**

**{Insert copy of unit from**

**Part 61 Manual of Standards Schedule 2}**