**Instructor rating**

**Formation aerobatics training endorsement**

#### Version 1.0

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# Syllabus Notes

## Overview of training course

The holder of the formation aerobatics training endorsement is authorised to conduct the following activities;

* + - Conduct flight training for a formation aerobatics flight activity endorsement (CASR 61.1175(1)(4))

The formation aerobatics training endorsement is item 22 of table 61.1235 of CASR Part 61. For the purposes of this document, TE means training endorsement.

A course of training for the formation aerobatics 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 a formation aerobatics 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-TE22 – Formation Aerobatics Training Endorsement

The applicant must also demonstrate extensive knowledge of the units of competency published in the Part 61 MOS for the issue of a formation aerobatics flight activity endorsement (FAE6) – refer to subpart 61T of CASR.

The ground and flight training summary for FIR TE22 formation aerobatics training endorsement is based on the trainee already holing a formation training endorsement and an aerobatics training endorsement.

However, if this is the first training endorsement to be granted, the applicant will require extensive additional ground and flight training to prepare them for airborne instructional activities. Any additional training is outside the scope of this sample syllabus and reference should be made to AC 61-07 for training material that cover topics related to an initial flight instructor rating. These will include instruction addressing the content of unit FIRC preparatory to undertaking the FIR examination and the suite of FIR tutorials detailed in the annexes to AC 61-07.

Reference to the FIR tutorials may be useful for revision purposes.

A training record must be completed for all ground and flight training undertaken by the applicant for the formation aerobatics training endorsement.

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

The following notes provide guidance to operators on conducting training for the formation aerobatics training endorsement. Training in these topics should adequately prepare an applicant for the flight test

for the formation aerobatics training endorsement. It is not exhaustive and operators may choose to include additional lessons in their syllabus.

The focus of every lesson in the syllabus is flight instructor training and uses the operator’s applicable ground or airborne training events as a blueprint for the training.

All flying for the applicant should be in the instructor control seat. The trainee will already have at least two training endorsements (aerobatics and formation) and should be competent operating the aircraft from the instructor control seat. A practice/revision flight is included in the course.

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

Additional training resources (aircraft and instructors) will be required to conduct this collective training activity and the flight test.

## Course content

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

### Aeronautical Knowledge - Review

#### Lessons TE22-1 and TE22-2

* + - 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 the formation aerobatics flight activity endorsement.
    - Review the applicant’s underpinning knowledge described in units of competency FAE-7 and FIR-TE22.

### Ground Training

#### Lessons TE22-3 to TE22-5

* + - Provide an overview of the privileges, limitations and obligations of the endorsement
    - Provide guidance on the administration requirements, including use the correct documentation, relating to the grant of the formation aerobatics flight activity endorsement
    - Review the principles of competency-based training and assessment
    - Provide guidance on preparing lesson plans and pre-flight briefs for formation aerobatics training. The content of unit FAE-7 focuses on briefing and management of the flight tasks associated with this activity. The instructor must highlight the risks and mitigating actions required to ensure safe flight and how they are to be integrated into the lessons for the endorsement.

### Flight Training

#### Lesson TE22-6 – Instructor control seat familiarisation

Experience shows trainee instructors require recent and competent handling skills in the instructor control seat before they are introduced to learning new skills associated with airborne instructional technique (AIT). This is best achieved during isolated training in the instructor control seat

without the complication of AIT learning. One flight has been included in the training course, operators may assess an applicant as requiring more than this one flight on a case by case basis.

The flight should include briefings and flight covering aircraft basic, advanced and emergency handling from the instructor control seat with focus on the manoeuvres required for the formation aerobatics endorsement. There should be some emphasis on recognition and recovery from undesired aircraft state.

#### Lessons TE22-7 to TE22-12

* + - Long brief demonstration and read back.
      * Before demonstrating a long brief, the instructor should take time to explain the context of the lesson to the trainee instructor. Discuss the actual lesson plan for the long brief, where it fits into the formation flying syllabus and any training aids that will be used.
      * The instructor demonstration of the long brief must include the performance criteria and applicable underpinning knowledge from relevant units.
      * Encourage the trainee instructor to take notes but also participate as the student pilot would do.
      * On completion of the demonstration, summarise the stages of the lesson and allow for questions from the trainee instructor.
      * The trainee read back should be conducted after they have had the opportunity to prepare and practice. The instructor should role play a student pilot during the read back.
      * On completion of the read back, the instructor must de-brief the trainee instructor on their performance against the performance criteria.
      * Where the trainee has not achieved the required standard, the performance criteria must be covered during an additional long brief lesson.
    - Plan a formation flight/Brief and de-brief formation pilots.
      * The applicant should plan the aerobatics formation flight. Prepare and deliver the aerobatics formation briefing and de-brief the aerobatics formation pilots on completion of the airex. All activities are performed under supervision of the instructor and delivered bloggs on.
    - Pre-flight briefing demonstration and read back.
      * It is suggested the PFB is an individual crew event, following the formation briefing.
      * Before demonstrating a pre-flight brief, the instructor should take time to explain the context of the lesson to the trainee instructor. Discuss the actual content of the pre-flight brief, and any training aids that will be used.
      * The pre-flight brief should introduce reference to elements/performance criteria from units C1 through C5, as appropriate to the stage of training/lesson and NTS1 and NTS2 where applicable.
      * On completion of the demonstration, summarise the structure and delivery method of the pre-flight brief and allow for questions from the trainee instructor.
      * The trainee read back should be conducted after they have had the opportunity to prepare. The instructor should role play a student pilot during the read back. The read back should be followed by a de-brief from the instructor against the performance criteria.
    - Formation aerobatics Demonstration.
      * Before demonstrating the in-flight lesson, the instructor should explain the sequence of the training elements and provide insight into appropriate delivery techniques. The in-flight demonstration should be broken into logical elements emphasising the appropriate airborne instructional technique for formation flying. The demonstration should include flight

management of this collective training event. As well as managing their aircraft/airborne instruction, the airex relies on at least one other aircraft, which has to be managed as well. All elements of FAE-7 including normal, abnormal and emergency procedures must be covered in the airex.

* + - Formation aerobatics Read back.
      * The applicant should read back the lesson following the blueprint provided during the demonstration. On completion of the in-flight lesson, the instructor should debrief the applicant against the performance criteria being cognisant that this may the first time the applicant has delivered a lesson on formation flight.

The applicant for the formation aerobatics training endorsement should demonstrate flying techniques and procedures to the 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-TE22 at Appendix B. FIR-TE22 is the unit for the formation aerobatics 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** |
| **For Initial issue of Flight instructor Rating (if required)** | | | | | |
|  |  | FIRC - Principles and Methods of Instruction and Legislation | 12.0 |  |  |
|  |  | Short Theory Lessons (Aviation based - refer to course notes) | 12.0 |  |  |
| **Aeronautical Knowledge - Review** | | |  |  |  |
| TE22-1 | FIR-TE22.1 | Review - Part 61 & Part 61 MOS flight activity endorsement standards for the formation aerobatics flight activity endorsement | 1.0 |  |  |
| TE22-2 | FIR-TE22; FIR- TE22.3; FAE-7 | Review – Underpinning knowledge required for unit FAE-7 and FIR-TE22 | 2.0 |  |  |
| **Ground Training** | | |  |  |  |
| TE22-3 | Part 61T & FIR- TE22; | Briefing - Privileges and limitations of the formation aerobatics training endorsement. Administration procedures and responsibilities including issue of endorsements | 1.0 |  |  |
| TE22-4 | FIR-TE22.1 | Review – Knowledge of competency based training as applied to formation aerobatics training | 1.0 |  |  |
| TE22-5 | FIR-TE22.4; FAE-7 | Tutorial – Preparing lesson plans and pre-flight briefs for formation aerobatics training lessons | 1.0 |  |  |
| **Flight Training** | | |  |  |  |
| TE22-6 | FIR-TE22 | Conduct aircraft basic, advanced and emergency handling from instructor control seat | 1.0 | 1.5 | 1.5 |
| TE22-7 | FIR-TE22.2; FIR- TE22.3; FAE-7 | Formation aerobatics – Long Brief - Demonstration | 1.5 |  |  |
| TE22-8 | FIR-TE22.2; FIR- TE22.3; FAE-7 | Formation aerobatics – Long Brief - Read back | 1.5 |  |  |
| TE22-9 | FIR22.2; FIR22.4;FIR22.5;FI R22.6; FAE-7 | Plan a formation aerobatics flight / Brief and de-brief formation pilots – Demonstration and Read back | 1.5 |  |  |
| TE22-10 | FAE-7; FIR- TE22.2; FIR- TE22.5 | Formation aerobatics – Pre-flight brief – Demonstration and Read back | 1.5 |  |  |
| TE22-11 | FIR-TE22.2; FIR- TE22.6; FIR- TE22.7; FIR- TE22.8;FAE-7 | Formation aerobatics FAE-7 - Demonstration | 0.5 | 1.0 | 2.5 |
| TE22-12 | FIR-TE22.2; FIR- TE22.6; FIR- TE22.7; FIR- TE22.8; FAE-7 | Formation aerobatics FAE-7 – Read back | 0.5 | 1.0 | 3.5 |
|  |  | **Flight Test** | **4.0** | **1.5** | **5.0** |

# 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** |
| TE22-1 |  |  |  |  |  |  |  |  |  |
| TE22-2 |  |  |  |  |  |  |  |  |  |
| TE22-3 |  |  |  |  |  |  |  |  |  |
| TE22-4 |  |  |  |  |  |  |  |  |  |
| TE22-5 |  |  |  |  |  |  |  |  |  |
| TE22-6 |  |  |  |  |  |  |  |  |  |
| TE22-7 |  |  |  |  |  |  |  |  |  |
| TE22-8 |  |  |  |  |  |  |  |  |  |
| TE22-9 |  |  |  |  |  |  |  |  |  |
| TE22-10 |  |  |  |  |  |  |  |  |  |
| TE22-11 |  |  |  |  |  |  |  |  |  |
| TE22-12 |  |  |  |  |  |  |  |  |  |

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-TE22.1 - Demonstrate knowledge of competency based training as applied to formation aerobatics endorsement training |  |  |  |  |
| FIR-TE22.2 - Demonstrate understanding of principles and methods of instruction |  |  |  |  |
| FIR-TE22.3 - Conduct aeronautical knowledge training |  |  |  |  |
| FIR-TE22.4 - Develop briefings and plan flight training |  |  |  |  |
| FIR-TE22.5 - Conduct pre-flight briefing |  |  |  |  |
| FIR-TE22.6 - Conduct airborne training |  |  |  |  |
| FIR-TE22.7 - Conduct post-flight briefing |  |  |  |  |
| FIR-TE22.8 - 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** | Formation aerobatics 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 – Formation aerobatics training endorsement - FIR-TE22**

**{Insert copy of unit from**

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