32 Simulator Instructor Rating

The aim of this flight test is for the applicant to demonstrate competency in the knowledge, skills and attitudes as required in Schedule 5 of the Part 61 MOS for the grant of the simulator instructor rating (SIR).

32.1 Examiner requirements

The following examiner requirements are applicable to the conduct of the SIR flight test:

1. The examiner must conduct the SIR flight test in accordance with clauses 1 to 3 of Schedule 5 of the Part 61 MOS.
2. The examiner must conduct the SIR flight test within the operational scope and conditions described in clause 4 of Schedule 5 of the Part 61 MOS.
3. The examiner must ensure that the ground component of the flight test is successfully completed before conducting the pre-flight briefing and flight component of the flight test.
4. The examiner must not introduce or permit simultaneous, multiple and unrelated simulated emergencies or abnormal events during the flight. Emergencies and abnormal situations relating to aircraft systems, powerplants and the airframe must be limited to those described in the AFM.
5. After a simulated failure, the examiner must ensure the aircraft is reconfigured to a normal operating mode before another simulated failure may be introduced, except where the simulated failures are linked.
6. The examiner must give the pre-flight briefing sequence on the day of the flight test.
7. The examiner must not give credits for any items of the ground component of the flight test if that component of the flight test is terminated due to failure of an item.
8. The examiner must terminate the flight test at the point where a fail assessment is made. This applies to either the ground or the flight components. If the flight component error is safety critical, no credits are to be given.
9. The examiner must complete and de-brief the ground component of the flight test prior to the commencement of the flight component of the flight test. The flight component includes the pre-flight briefing.
10. Where credits are available for flight test items, they are valid for 28 days only. After 28 days, the flight test must be conducted in full.

32.2 Plan

32.2.1 Testing methodology

The examiner should apply the flight test methodology described in FEH chapter 3, Adult education and competency-based assessment and FEH chapter 4, Assessment of human factors and non-technical skills.

The flight test should be designed such that all required components can be assessed in a logical sequence. Where one or more mandatory units or elements are unable to be assessed for any reason, the flight test cannot be completed.

The examiner must ensure the applicant is given adequate notice of the intended task to allow for unhurried preparation and planning (simulating a training session). The applicant should be given the test scenario at least 48 hours before the start of the flight test.

It is recommended that the examiner plans for briefing times of approximately:

- 0.7 hour for each long briefing
- 0.2 hour for a pre-flight briefing.

It is recommended that the examiner plans an **airborne** time of approximately:

- 1.5 hour for the test specific activities and manoeuvres.

32.2.2 SIR assessment scope and conditions

The SIR flight test must be conducted under the VFR or IFR as applicable and in an FSTD approved for the purpose, in accordance with subregulation 61.1210(4), regulation 61.1245 and subregulations 61.1250(2)(3) of CASR.

The FSTD used for the SIR flight test must be of the appropriate category and be capable of being operated for the kind of operations relevant to the training endorsements covered by the flight test.

For the test the examiner must be type rated so as to assess the applicant demonstrating knowledge, conducting aeronautical knowledge training and the conduct of activities and manoeuvres which are applicable to, or which are relevant to, the endorsements that are being assessed during the flight test.

The activities and manoeuvres, listed in FEH 32.4.3 table 44, mirror the SIR test form and FTM items. They are a paraphrase of the Part 61 MOS Schedule 5 for the SIR flight test.

These activities and manoeuvres, described in clause 3 of Schedule 5 of the Part 61 MOS and the SIR test form, must be assessed against a representative sample of the performance criteria applicable to the Element being assessed, taking into account the relevant competency standards prescribed in Schedule 2 of the MOS.

The SIR applicant should demonstrate that control of the FSTD instructor operating station is maintained at all times, that the successful and safe outcome of any training session is not in doubt and that any corrective action is taken promptly.

To assist in the assessment of the SIR applicant's flight management ability, the applicant should decide positioning, height and orientation for all flight sequences and manage all relevant radio communications.

A competent performance in operating the FSTD IOS is one in which the SIR applicant is in control of the session and is able to manage unplanned situations to achieve the desired task outcome.

Additionally, SIR applicants should demonstrate efficient and effective decision making, continuous situational awareness and confident task management.

Training endorsement test requirements

Refer to chapter 31, flight instructor rating, for the full list of training endorsement test requirements.

Multi-crew pilot

- Long briefing 1: an IR syllabus sequence.
- Long briefing 2: an MCO syllabus sequence.
- FSTD: a representative air transport aircraft.

Type rating

- Long briefing 1: a sequence associated with theory or technical training on the aircraft type.
- Long briefing 2: a sequence associated with an aerodynamic aspect of the aircraft type.
- FSTD: the type proposed.

Multi engine aeroplane

- Long briefing 1: an MEA syllabus sequence.
- Long briefing 2: the ‘asymmetric control problem’.
- FSTD: a representative MEA training aircraft.
- Flight conditions: by day under the VFR.

Design feature endorsement

- Long briefing: a DF syllabus sequence.
- FSTD: an aircraft that has the design feature described in the pre-flight briefing.
- Flight conditions: by day under the VFR.

Instrument rating

- Long briefing 1: an IR syllabus sequence.
- Long briefing 2: a second IR syllabus sequence.
- FSTD: certified to IFR standard
- Flight conditions: under the IFR.

Night vision imaging system rating

- Long briefing 1: an NVIS syllabus sequence.
- Long briefing 2: a second NVIS syllabus sequence.
- FSTD: certified to NVFR or IFR standard and equipped for NVG operations.
- Flight conditions: by night.

Instructor rating

- Long briefing: a sequence associated with the 'principles of training' for a training endorsement held by the applicant.
- FSTD: a representative training aircraft used for one of the applicant's existing training endorsements.

MEA Class rating instructor

- Long briefing 1: a sequence associated with the 'principles of training' of MEA instructors.
- Long briefing 2: the 'asymmetric control problem'.
- FSTD: a representative MEA training aircraft.
- Flight conditions: by day under the VFR.

32.3 Conduct (ground component)

32.3.1 Initial brief to applicant

In accordance with chapter 3, Adult education and competency-based assessment; the examiner must begin the flight test with a brief to the applicant on the following items:

- flight test context, purpose and content
- assessment procedure
- function of the examiner
- standards against which competency will be assessed
- actions in the event of a failure assessment
- the 'trainee' profile for the flight test scenario.

The applicant should be encouraged to ask for clarification should they become uncertain on any of the flight test elements.

32.3.2 Document review

The examiner must confirm that an applicant for the SIR satisfies the eligibility requirements to undertake the flight test for the grant of the simulator instructor rating. To achieve this, the CASR

subregulation 61.235(4) certification, training records, logbook and licence must be checked. Ideally, these documents should be presented to the examiner prior to the commencement of the flight test.

Licence – the applicant for the SIR must hold a CPL or ATPL of the same category as the FSTD in which the flight test is conducted.

Aeronautical knowledge examinations – the examiner must review the applicant's theory examination pass records.

The applicant must also have completed an approved course of training in principles and methods of instruction, or hold a Certificate IV in Training and Assessment, or hold a tertiary qualification in teaching.

Knowledge deficiency report (KDR) – the examiner must ascertain whether the training provider has completed the KDR requirements. It is strongly recommended that the KDR assessment be conducted by an instructor before the flight test.

If the KDR has not been completed, the examiner must complete this before the flight component. Where the examiner conducts the KDR assessment, this should be on the first day of flight test.

Flight training requirements – the examiner must review the applicant's pilot training records to ensure that the training requirements have been met. Normal evidence should at least be a course completion certificate.

SIR applicants for the multi-crew pilot training endorsement must have completed an MCC course.

Aeronautical experience – the examiner must review the applicant's pilot logbook to ensure that the minimum aeronautical experience requirements have been met.

English language proficiency – N/A.

Eligibility certification – the examiner must ensure that an appropriate person of the training provider has certified in writing that the applicant is eligible to take the flight test.

Medical certificate – N/A.

Security check and fit and proper person requirements – N/A.

If the flight test is a retest following a failed assessment – the examiner must review the applicant's training records for evidence that appropriate remedial training has been successfully carried out with the applicant.

32.3.3 Assessment of knowledge requirements

Questions for the oral knowledge assessment must be in accordance with the knowledge requirements topics listed in clause 2 of Schedule 5 of the Part 61 MOS.

The examiner should use a developed set of scenario-based questions for the listed topics to achieve effective assessment of the applicant's working knowledge and reasoning ability. It should be a structured conversation to a logical conclusion, starting broad and funnelling down, rather than simple factual recall. (Refer to FEH 3.2.5 to 3.2.7 for appropriate questioning techniques and methods of enquiry.)

Conducting the Aeronautical Knowledge Quiz

The examiner should include questions from the knowledge standards defined in Schedule 3 of the Part 61 MOS, relating to the training endorsement being tested. The assessment of aeronautical knowledge is related to the applicant's 'own knowledge', not an ability to transfer knowledge, therefore, the examiner should not require 'teaching' during this assessment.

Where they are relevant, the bank of questions should cover multiple 'themes' of knowledge, such as:

- general aeronautical knowledge
- aerodynamics
- flight rules and air law
- human factors principles

- navigation
- meteorology.

It is recommended the examiner allows 45 to 60 minutes for the knowledge requirements.

32.3.4 The long briefing

The flight test should include a long briefing(s) as prescribed for the specific training endorsement to satisfy the test report. Prior notice of the briefing topic should be given to the applicant prior to the day of the flight test unless the specific requirements state ‘this is to be given on the day of the test’.

During the long briefing, the examiner should not interrupt the applicant to explore their theoretical knowledge; rather, any occasional interjection should be as the ‘trainee’ reacting to the briefing content and delivery. The examiner may query the applicant upon conclusion of the briefing.

When conducting SIR flight tests for the grant of more than one training endorsement in a combined event, at the examiner’s discretion, the total number of long briefings assessed may be reduced. The assessment must include at least one long briefing as prescribed for each training endorsement so that the applicant demonstrates competency conducting aeronautical knowledge for each endorsement.

32.3.5 Ground component debriefing

At the conclusion of the ground component, the examiner shall debrief the SIR applicant on that portion of the flight test so far. The debriefing shall include feedback against the specific performance criteria.

32.3.6 Assessment of flight planning

As part of the flight test, the applicant must complete or demonstrate knowledge of (if computer generated):

- flight plan
- fuel plan
- weight and balance calculation
- take-off and landing distance/performance calculation.

When reviewing the applicant's flight preparation documents, the examiner must be satisfied that the applicant is able to validate the data on which the planning decisions and calculations have been made (including, forecast weather, NOTAMs, aircraft data, chart validity).

The examiner must ensure, through considered questioning, that the preparation is solely the work of the applicant and meets the knowledge standards as applicable.

32.4 Conduct (flight component)

32.4.1 Assessment of the applicant’s performance

When assessing the competency standards for the activities and manoeuvres in this chapter and on the flight test form, the examiner should consider both the technique used to execute the activity or manoeuvre and that tolerances are maintained within required parameters.

The relevant performance criteria for each element frequently use the terms: technique, smoothness, accuracy, judgement, procedures, knowledge, and flight management.

The following explanations are provided to assist the examiner in assessing the flight component:

- **Technique** – is the method by which a task is performed. There may be more than one acceptable technique and the examiner should be mindful of this in their assessment. Technique should, however, always involve the application of smooth, coordinated and accurate control inputs. Adjusting power, attitude and trim should be in a timely and coordinated fashion whilst following correct procedures

- **Smoothness** – is the ability to skilfully make the appropriate rate of adjustment to power and attitude during a manoeuvre. The applicant should demonstrate smooth flying in all sequences
- **Accuracy** – is the ability to control height, airspeed, heading, balance and trim within the required MOS flight tolerances. Sustained errors outside the MOS flight tolerances in any of these aspects should result in a fail assessment
- **Judgement** – is applicable to all tasks but is of importance with respect to the effect of environmental conditions such as cloud, visibility, wind and turbulence. It may be that on some occasions the flight conditions are such that even though the applicant's technique is sound, the aircraft may deviate outside specified tolerances for short periods. In such cases the assessment of technique, smoothness, accuracy and judgment should be the determining factors
- **Procedures** – the applicant should demonstrate awareness and practical application of nominated standard operating procedures and checklist discipline throughout the flight test. In many circumstances, the adherence to SOP's may be the reason a committed error has been corrected in a timely manner
- **Knowledge** – during the flight test the applicant's underpinning knowledge may be further tested. For example, during the management of an aircraft system failure, it may become apparent that there is a lack of knowledge of that system
- **Flight management** – the applicant should demonstrate satisfactory proficiency in aircraft and flight management systems, situational awareness, threat and error management and decision-making during the flight.

Assessment should be based on the technique used by the applicant and not just the ability to perform the task within specified numerical tolerances.

Applicants should not be given a second opportunity to demonstrate a manoeuvre unless, in the opinion of the examiner, the circumstances causing failure of the first attempt were outside the control of the applicant in the test environment or the applicant recognised the error and self-managed corrective actions. This should be considered when the examiner is observing an error or errors which may have the potential to become safety critical, providing the applicant is demonstrating non-technical skills and threat and error management appropriately before the examiner is required to intervene.

32.4.2 Pre-flight briefing

In accordance with FEH chapter 3, Adult education and competency-based assessment; the examiner must brief the applicant on:

- the scenario applied to the test environment (e.g. simulated training session)
- the trainee profile
- the format of the flight component to ensure that the SIR applicant is in no doubt about what is required.
- requirement to de-brief the 'trainee' on air exercise one
- pilot in command, including traffic separation roles and responsibilities
- flight tolerances and ground references
- simulating emergencies, methods and calls
- actual emergencies
- procedures for simulating IMC (if applicable)
- multiple flights and the assessment of competencies (if applicable).

The applicant should be encouraged to ask for clarification should they be uncertain about any of the briefed items.

32.4.3 Assessment of activities and manoeuvres

An examiner must comply with the requirements and take into account the recommendations described below when planning and conducting the **SIR** flight test. Where there are no specific recommendations, 'NSR' is listed in the table against the unit or element.

Table 44. Assessment of activities and manoeuvres - SIR

Phase of flight	Requirements	Recommendations
Pre-flight	(a) Plan a flight training exercise	Confirm the technical and human factors requirements, including simulator sickness, safety and emergency procedures.
	(b) Perform pre-flight actions and procedures	Perform pre-flight FSTD and instructor station procedures
	(c)(i) Pre-flight brief - confirm the trainee is prepared and can recall underpinning knowledge	The pre-flight briefing sequence should be the same sequence as the air exercise one. The applicant should check essential knowledge is 'recalled', as related to the practical aspects of flight (i.e. not unnecessarily re-teaching the long briefing theory). The limitations of the FSTD should be discussed.
	(c)(ii) Pre-flight brief - training outcomes and performance criteria are briefed	NSR
	(c)(iii) Pre-flight brief - conduct of the flight and actions required by the trainee during the flight are briefed	The applicant should ensure the trainee is made aware of what will be seen and done during the flight.
	(c)(iv) Pre-flight brief - TEM issues applicable to the proposed flight are discussed	NSR
Test specific activities and manoeuvres	(a)(i) Air Ex - Conduct FSTD training - guide and facilitate learning and manage trainee cognitive load	Throughout all phases of the training, demonstrate the ability to avoid unnecessary interruptions to the flow of the training sequence. Improve training outcomes by, where necessary, freezing the simulator or repositioning the simulator to a designated position in space.
	(a)(ii) Air Ex - Conduct FSTD training - monitor and assess trainee performance and provide instruction	NSR
	(a)(iii) Air Ex - Conduct FSTD training - address any technical issues or unusual conditions as required	NSR
	(a)(iv) Air Ex - Conduct FSTD training - demonstrate ability to operate the instructor station	NSR

Phase of flight	Requirements	Recommendations
	(a)(v) Air Ex - Conduct FSTD training - demonstrate ability to operate the functional controls of the pilot station	The applicant should demonstrate a working knowledge of cockpit systems and be able to direct the trainee to resolve uncertainties with operating the systems or performing checklists.
	(a)(vi) Air Ex - Conduct FSTD training – demonstrate a flight sequence	The applicant must demonstrate a high standard in each of the manoeuvres requested by the examiner.
	(b)(i) For multi-crew pilot training endorsement - teamwork and problem solving are emphasised	NSR
	(b)(ii) For multi-crew pilot training endorsement - NTS rather than manipulative skills are emphasised	The applicant shall demonstrate a good working knowledge of the MCO competencies.
	(b)(iii) For multi-crew pilot training endorsement - SOPs, cockpit discipline and use of automation	NSR
Shut down and post-flight	(a) Perform post-flight FSTD and instructor station procedures	NSR
	(b)(i) Post-flight brief - trainee is given the opportunity to self-assess their performance against performance criteria	On conclusion of the flight, the SIR applicant shall de-brief the examiner on air exercise one as they would de-brief a real trainee following an instructional flight.
	(b)(ii) Post-flight brief - trainee's performance is assessed accurately and discussed	NSR
	(b)(iii) Post-flight brief – trainee’s performance deficiencies are identified and remedial actions and proposed training discussed	NSR
	(b)(iv) Post-flight brief - TEM issues encountered during the flight are discussed	NSR
General requirements	(a) Use correct radio procedures	NSR

32.4.4 Failure assessment

The failure to perform an activity or procedure may be broken into 2 levels depending on the safety implications during the flight test. Both levels result in a fail assessment.

Safety-critical items

The highest level, being safety critical, is where the control of the FSTD Instructor Operating Station is such that the safe outcome of the activity or procedure is in doubt and the examiner has to take control (physically or by direction).

Examples of safety-critical failure items include, **but are not limited to**:

- failure to complete FSTD checklist items mandated by the manufacturer
- failure to correctly prepare the FSTD for flight
- failure to operate the IOS within the limitations of the FSTD
- failure to comply with the hand-over/take-over technique (as applicable to FSTD training sessions).

If the error is safety critical and the examiner needs to take control or intervene, the flight test must be terminated immediately. For the SIR, no credits are to be given.

Non safety-critical items

The second level is where the control of the FSTD is such that the safe outcome of the activity or procedure is certain, but the technique is unsatisfactory. Under these circumstances the flight test may be continued, and credits given for successfully completed test items.

The examiner has the discretion to enable the applicant to demonstrate TEM to avoid the situation where the error becomes safety critical.

Credits are only valid for one retest.

32.5 Complete (post flight)

32.5.1 Debriefings

The examiner must debrief the applicant and the training provider as soon as practicable after the conclusion of the flight component.

In the event of a fail assessment, in addition to the verbal debriefing, the examiner should ensure sufficient detail is entered into the applicant's training records to allow the training provider to construct a remedial training program. CASR 61.385 implications should also be discussed with the applicant.

32.5.2 Flight test administration

At the conclusion of the flight test, the examiner must:

- within 14 days after the day of the test, complete the flight test report and provide a copy of the report to the applicant, training provider and CASA
- within 14 days after the day of the test, complete the flight test management system notification requirements.

All items on the test form must be marked to indicate the assessment, with either ✓ (pass), **X** (fail), **N** (not tested) or **TR** (training records).

Licence entries made by the examiner (if applicable) must be in accordance with the Flight Crew Licensing Manual.