

# 21 Type Rating – Cruise Relief Co-pilot

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 cruise relief type rating – co-pilot (CRTR-CP) and associated aircraft category rating.

## 21.1 Examiner requirements

The following examiner requirements are applicable to the conduct of the CRTR-CP flight test:

The examiner must conduct the CRTR-CP flight test in accordance with clauses 1 to 3 of Schedule 5 of the Part 61 MOS.

1. The examiner must conduct the CRTR-CP flight test within the operational scope and conditions described in clause 4 of Schedule 5 of the Part 61 MOS.
2. 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.
3. The examiner must not introduce 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.
4. 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. The safety of the aircraft should never be in doubt when simulating emergencies or failures.
5. 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.

## 21.2 Plan

### 21.2.1 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 commercial passenger/cargo carrying operation). The applicant should be given the test route at least 24 hours before the start of the flight test.

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

- 1.0 hour for the general handling and test specific manoeuvres.

### 21.2.2 CRTR – CP assessment scope and conditions

The CRTR-CP flight test must be conducted under the IFR in an FSTD approved for the purpose, in accordance with subregulations 61.245(1), 61.845(3) of CASR, and the limitation of subregulation 61.245(2) of CASR. The FSTD must be of the type covered by the cruise relief type rating.

The activities and manoeuvres, listed in FEH 21.4.3 table 32, mirror the CRTR-CP test form and FTM items. They are a paraphrase of the Part 61 MOS Schedule 5 for the CRTR-CP flight test.

These activities and manoeuvres, described in clause 3 of Schedule 5 of the Part 61 MOS and the CRTR-CP 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.

CRTR-CP flight tolerances and ground reference tolerances are specified in tables 2 and 4 of Schedule 8 of the MOS. Sustained deviation outside the applicable flight tolerance is not permitted.

The CRTR-CP applicant should demonstrate that control of the aircraft or procedure is maintained at all times, that the successful and safe outcome of any manoeuvre is not in doubt and that any corrective action is taken promptly.

Where the aircraft is fitted with an autopilot system, the applicant must demonstrate competency in the system. If the examiner is occupying a control seat in a multi-crew operation, they must provide the normal duties of pilot in command in that role, but only to the extent required by the operator's operations manual.

Where the examiner occupies a jump seat, a suitably qualified pilot should be the nominated PIC.

Where the examiner or a suitably qualified pilot occupies a control seat, the examiner must brief all crew members on the following:

- command/safety of flight responsibilities
- flight test profile and scenario
- role of the 'pilot in command'
- introduction of non-normal sequences
- discontinuation/termination of the flight test
- communication protocols.

When conducting the flight test in an approved FSTD, the examiner should not speed up or in any other way change the real-time nature of the flight, except when a non-normal sequence has been completed and the simulator returned to its normal operating state.

## 21.3 Conduct (ground component)

### 21.3.1 Initial brief to applicant

In accordance with FEH 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 applicant should be encouraged to ask for clarification should they become uncertain on any of the flight test elements.

### 21.3.2 Document review

The examiner must confirm that an applicant for the CRTR-CP satisfies the eligibility requirements to undertake the flight test for the grant of the type rating. To achieve this, the CASR subregulation 61.235(4) certification, training records, logbook, licence and medical certificate 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 CRTR-CP must hold a CPL, MPL or ATPL (or be applying for the licence simultaneously with the CRTR-CP) of the same category as the aircraft in which the flight test is conducted.

**Aeronautical knowledge examinations** – the examiner must review the applicant's theory examination pass records, as conducted by the training provider.

**Knowledge deficiency report (KDR)** – N/A.

**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. The applicant must also have completed an approved course of training in multi-crew cooperation (subregulation 61.845(3) of CASR).

**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** – for flight tests conducted in an aircraft, the examiner must check that the applicant holds a medical certificate, medical exemption or equivalent allowing them to exercise the privileges of the licence and rating. (Refer to FEH 2.9 table 1 for a summary of medical requirements.)

**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.

### 21.3.3 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.)

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

### 21.3.4 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
- flight notification
- 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.

## 21.4 Conduct (flight component)

### 21.4.1 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.

### 21.4.2 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. passenger carrying commercial operation/simulation of passengers)
- pilot in command, including traffic separation roles and responsibilities

- transfer of control
- flight tolerances and ground references
- simulating emergencies, methods and calls
- clarification of crew responsibilities in the event of actual emergencies
- procedures for simulating IMC
- 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.

### 21.4.3 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 **CRTR-CP** flight test. Where there are no specific recommendations, 'NSR' is listed in the table against the unit or element.

**Table 32. Assessment of activities and manoeuvres - CRTR-CP**

Phase of flight	Requirements	Recommendations
Pre-flight	(a) Perform pre-flight actions and procedures	An applicant may apply operator specific fuel policies for carriage over and above the minimum legal statutory fuel requirements.
Ground operations, take-off, departure and climb	(a) Conduct climb profiles and climbing turns	NSR
En route cruise	(a) Maintain straight and level and turn aircraft	NSR
	(b) Maintain any 1 cruise configuration for turbulence, holding or range	NSR
	(c) Use instrument navigation systems	The flight should include a sector to an aerodrome serviced by a published instrument approach which the aircraft is equipped to use so that the applicant can demonstrate an approach IAW company procedures.
Test specific activities and manoeuvres	(a) Conduct approach to stall and recovery – 1 must be in the approach configuration and at least 2 stalls	The examiner should place emphasis on the application of correct technique rather than the achievement of a minimum height loss.
	(b) Perform full panel instrument flying	NSR
	(c) Full panel instrument flying, recover from at least 2 unusual attitudes	NSR
	(d) Manage engine failure in flight	NSR
	(e) Conduct approach OEI	NSR
	(f) Conduct missed approach OEI	NSR

Phase of flight	Requirements	Recommendations
	(g) Manage any 1 system malfunction – must be separate event to OEI approach and OEI missed approach	NSR
Descent and arrival	(a) Conduct descent profiles and descending turns	NSR
	(b) Plan and conduct arrival and circuit joining procedures	NSR
Circuit, approach and landing	(a) Conduct normal circuit pattern, approach and landing	NSR
	(b) Conduct crosswind landing	NSR
	(c) Perform a go-around procedure	NSR
	(d) Perform after-landing actions and procedures	NSR
Shut down and post-flight	(a) Park, shut down, secure aircraft and complete post-flight administration	NSR
General requirements	(a) Maintain effective lookout	In most flight tests, the assessment of emergency and non-normal events will provide sufficient evidence of the NTS competencies. The examiner should provide, where possible, applicable operational environment scenarios to support these events.  The examiner should request a copy of company SOPs to ensure familiarity with standard briefs, work-cycles and procedural techniques.
	(b) Maintain situational awareness	
	(c) Assess situations and make decisions	
	(d) Set priorities and manage tasks	
	(e) Maintain effective communications and interpersonal relationships	
	(f) Recognise and manage threats	
	(g) Recognise and manage errors	
	(h) Recognise and manage undesired aircraft state	
	(i) Use correct radio procedures	Communication and radio procedures relevant to the airspace within which the test is conducted.
	(j) Manage relevant aircraft systems	The applicant should demonstrate a sound working knowledge of the aeroplane's automation system, including use of the Flight Management Computer System (FMCS), the Autopilot Flight Director System (AFDS) and the Mode Control Panel (MCP) (or however these systems are described).
	(k) Manage fuel system and monitor fuel plan and usage	NSR

## 21.4.4 Failure assessment

The failure to perform a manoeuvre 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 aircraft is such that the safe outcome of the manoeuvre 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 checklist items mandated by the AFM
- failure to correctly prepare the aircraft for flight
- failure to comply with ATC clearances and airspace requirements
- failure to operate the aircraft within the limitations of the AFM
- failure to maintain required flight visibility and cloud separation during a visual segment
- failure to maintain required terrain clearance
- failure to comply with minimum descent altitudes
- failure to maintain minimum traffic separation standards
- failure to comply with the hand-over/take-over technique (not applicable to single pilot authorisations)
- failure to safely and consistently apply the elements of NTS1 and NTS2.

If the error is safety critical and the examiner needs to take control or intervene, the flight test must be terminated immediately. Some credits may be given for test items already assessed that are not associated with or relevant to the safety-critical event.

### Non safety-critical items

The second level is where the control of the aircraft is such that the safe outcome of the manoeuvre or procedure is certain, but the flight tolerances have been exceeded or 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 NTS2 TEM to avoid the situation where the error becomes safety critical.

Credits are only valid for one retest.

## 21.5 Complete (post flight)

### 21.5.1 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.

### 21.5.2 Flight test administration

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

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- 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.