

11 Multi-crew Pilot Licence

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 multi-crew pilot licence (MPL) and associated aircraft category rating.

11.1 Examiner requirements

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

1. The examiner must conduct the MPL flight test in accordance with clauses 1 to 3 of Schedule 5 of the Part 61 MOS.
2. The examiner must conduct the MPL 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 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. The safety of the aircraft should never be in doubt when simulating emergencies or failures.
6. 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.

11.2 Plan

11.2.1 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 navigation task to allow for unhurried preparation and planning (simulating an air transport 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:

- 2.0 hours for the navigation task (this should not include time delays which may be experienced at a busy Class C or D airport)
- 1.0 hour for the general handling and test specific manoeuvres.

The examiner may choose to conduct the general handling and navigation components in 2 separate flights.

11.2.2 MPL assessment scope and conditions

The MPL flight test must be conducted under the IFR and in an aeroplane or an FSTD approved for the purpose, in accordance with subregulation 61.655(3) of CASR. The aeroplane and FSTD must be multi-engine, turbine-powered and type rated.

The activities and manoeuvres, listed in FEH 11.4.3 table 22, mirror the MPL test form and FTM items. They are a paraphrase of the Part 61 MOS Schedule 5 for the MPL flight test.

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

MPL flight tolerances and ground reference tolerances are specified in Tables 2 and 5 of Schedule 8 of the MOS. Sustained deviation outside the applicable flight tolerance is not permitted.

The MPL applicant should demonstrate safe and effective management of the flight as the co-pilot in a multi-crew environment, 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.

The entire flight test should be conducted as a multi-crew operation (2-pilot) for all flight component test items. The applicant may use the aeroplane automation systems, unless otherwise directed by the examiner.

When the flight test is conducted in an aircraft, the examiner may occupy either a control seat or a suitable observer seat (jump seat). Where the examiner occupies a control seat (as captain), the examiner should be the nominated pilot in command (PIC).

Examiners must ensure that they do not impart training or assistance to the applicant during the conduct of the MPL test. If the examiner is occupying a control seat, they must provide the normal duties of a captain 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 occupy the captain seat and 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 captain
- introduction of non-normal sequences
- discontinuation/termination of the flight test
- communication protocols.

When the flight test is conducted in an approved FSTD, the examiner should not position the applicant over the top of a navigation aid or at the commencement of the approach procedure being assessed. 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. For example, after a landing, the 'aircraft' may be re-positioned to the start of the runway to facilitate another take-off without the requirement to taxi to the holding point once again.

The applicant must demonstrate competency in performing instrument approach operations for at least 2 different kinds of procedures, including a 2D instrument approach operation to the published MDA/H, and an ILS or GLS instrument approach to the published DA/H.

Examiners should use only the authorised instrument approach procedures for the aerodromes being used. Overlay instrument approaches are not to be used for an MPL flight test, except where an aeroplane's navigation system has been approved for such approaches.

The instrument flight assessment should consist of a flight with at least the CIR, IAP2 and IAP3 elements conducted under the IFR. The flight should include a sector to an aerodrome (other than the departure aerodrome) serviced by a published instrument approach which the aeroplane is equipped to use.

The applicant must demonstrate proficiency to operate the aircraft for at least one instrument approach operation without the autopilot and flight director being used (manually manipulating the flight controls). Establishing manual flight must be accomplished prior to the Initial Approach Fix (IAF) or equivalent. If

circling is required to complete the instrument approach manual flight must be continued to a point from where the landing can be achieved.

Where the aircraft is fitted with auto throttle capability, it is acceptable for the auto throttle to remain on.

For aircraft where a significant degradation of equipment would be required to achieve a flight director off approach to be flown, the examiner has the option of allowing the flight director on for the approach. Examiners must be cognisant of the general competency requirement of regulation 61.385 of CASR, regarding the authority to exercise the privileges of a rating or an activity in an aircraft. For manoeuvres that involve elevated risk (abnormal and emergency flight manoeuvres) when conducting a flight test in an aircraft, the examiner must be competent in the management of all flight test activities, including the ability to safely manage potential applicant mishandling. This level of competency should be achieved with a targeted program of examiner training in an aircraft or a simulator where one is available.

11.3 Conduct (ground component)

11.3.1 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.

11.3.2 Document review

The examiner must confirm that an applicant for the MPL satisfies the eligibility requirements to undertake the flight test for the grant of a CASR Part 61 licence. To achieve this, the CASR subregulation 61.235(2) certification, training records, logbook, licence (or ARN if RPL/PPL/CPL not issued) and medical certificate must be checked. Ideally, these documents should be presented to the examiner prior to the commencement of the flight test.

Minimum age – the examiner must sight one of the following documents to verify that the applicant is at least 18 years of age:

- Australian driver licence
- CASA issued medical certificate
- Australian passport
- Australian birth certificate.

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

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.

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 – the examiner must ensure that the applicant holds a current AELP assessment.

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 – the examiner must check that the applicant holds a Class 1 medical certificate or a medical exemption allowing them to exercise the privileges of the licence. (Refer to FEH 2.9 table 1 for a summary of medical requirements.)

Security check and fit and proper person requirements – regulation 11.055 of CASR and the Aviation Transport Security Regulations require that the applicant has completed the applicable declarations.

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.

11.3.3 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.

11.3.4 Assessment of flight planning

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

- flight plan
- fuel plan
- flight notification
- loading system
- take-off and landing data/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.

11.4 Conduct (flight component)

11.4.1 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.

The examiner should assess adherence to either company SOPs, training provider SOPs or the aeroplane manufacturer's SOPs, for example, operator specific, Boeing or Airbus, as nominated by the applicant.

Assessment should be based on the technique used by the applicant to satisfy compliance with SOPs in a multi-crew environment, and not just the technique used by the applicant and 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.

11.4.2 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 air transport 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.

11.4.3 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 **MPL** flight test. Where there are no specific recommendations, 'NSR' is listed in the table against the unit or element.

Table 22. Assessment of activities and manoeuvres - MPL

Phase of flight	Requirements	Recommendations
Pre-flight	(a) Plan an IFR flight	Applicants should be given notice and pre-flight material of the intended flight test route in accordance with their operation.
	(b) 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.
	(c) Perform pre-flight inspection	In-transit (aircraft turnaround) pre-flight cockpit preparation is acceptable for the purposes of the pre-flight inspection.
Ground operations, take-off, departure and climb	(a) Complete all relevant checks and procedures	NSR
	(b) Taxi aircraft	Taxiing – only applicable in simulator/aircraft types for which ground steering is controlled from either operating seat.
	(c) Plan, brief and conduct take-off and departure procedures	NSR
	(d) Conduct crosswind take-off	Training record evidence of dual or solo competence in crosswinds of at least 70% of the AFM maximum and oral questioning should be used in the absence of a crosswind. In this case the examiner must indicate competency by marking the item on the flight test form with 'TR'.
	(e) Conduct an instrument departure (normal operations)	If available, the departure should be published or ATC cleared.
	(f) Conduct climb profiles and climbing turns	NSR
En route cruise	(a) Navigate aircraft en route using ground and satellite navigation systems	NSR
	(b) Perform navigation systems integrity checks	NSR
	(c) Identify and avoid hazardous weather conditions	NSR

Phase of flight	Requirements	Recommendations
	(d) Maintain any 1 cruise configuration for turbulence, holding or range	NSR
Test specific activities and manoeuvres	(a) Perform full and limited panel instrument flying	<p>Where a failure of the primary attitude, heading or airspeed indication is introduced in-aircraft, the examiner should not simulate a failure of the system when the aircraft is flying in IMC or at night. In complex aircraft types with multiple primary instrument display redundancy capability, the intent of the Part 61 MOS (IFL unit of competency) is satisfied with a reduction of full primary instrument display as a result of a system failure. This MOS competency should be accomplished by the applicant demonstrating system/checklist knowledge (recovering instrumentation where applicable) to a level whereby satisfactory manoeuvring can be conducted, albeit on an altered instrument scan.</p> <p>Forcing the aircraft into a situation of multiple unrealistic failures, whereby the standby attitude indicator and magnetic compass are the only primary means of instrumentation, is not necessary.</p>
	(b) Full and limited panel instrument flying, recover from at least 2 unusual attitudes	<p>If the flight test is being conducted in an aeroplane and not an approved simulator, recovery from unusual attitudes should only be conducted by day and the examiner should have a clear horizon.</p> <p>At least one recovery full panel and at least one recovery limited panel must be assessed.</p>
	(c) Manage engine failure during take-off - IAS \geq V1	<p>The applicant shall attain optimum aeroplane performance following failure of an engine. The speed at which that failure may be simulated shall be as follows:</p> <p>(i) aeroplanes for which the take-off performance is predicated on the establishment of a V1, failure of the engine shall be simulated at a speed greater than V1;</p> <p>(ii) aeroplanes other than those described in subparagraph (i) above, failure of the engine shall be simulated at a speed greater than either, (a) the 1 engine inoperative best rate of climb speed or (b) the take-off safety speed plus 10 knots, whichever is the higher.</p> <p>In an aircraft the simulated engine failure should not be conducted at night or in IMC and the examiner should have visual reference at all times during the manoeuvre.</p>
	(d) Conduct instrument departure OEI	The departure must be a separate event to the one engine inoperative (OEI) missed approach.
	(e) Conduct instrument approach OEI	<p>The applicant should demonstrate proficiency in the management of the aircraft with OEI during an approach.</p> <p>The simulated engine failure should be introduced at or before the Final Approach Fix (FAF).</p>
	(f) Conduct missed approach OEI	The applicant should fly the published approach followed by the published missed approach whilst maintaining the specified flight path tolerances for OEI operations.

Phase of flight	Requirements	Recommendations
	(g) Manage an event – system malfunction, fire or radio failure	NSR
Descent and arrival	(a) Perform a descent or published arrival procedure to an aerodrome	NSR
	(b) Track to holding fix and conduct a holding pattern or sector 3 entry procedure	If a sector 3 entry into a holding pattern is conducted, an additional holding pattern is not required.
	(c) 2D, prepare for approach	NSR
	(d) 2D, conduct approach	NSR
	(e) 3D, prepare for approach	NSR
	(f) 3D, conduct approach	NSR
	(g) Conduct missed approach	Since an OEI missed approach is required in the test, an all engines operating (AEO) missed approach may be included but is not required. Only one missed approach is required. If the applicant conducts a 2D missed approach, they must be able to describe the 3D DA procedure. If a 3D missed approach is conducted, they must describe the 2D MDA procedure. This is best completed during the ground component.
Circuit, approach and landing	(a) Conduct circling approach if required	The circling approach must be demonstrated as the continuation of the instrument approach from the specified circling minima, must be flown over the aerodrome specified on the instrument approach plate and must be at least a 90° heading change to the runway. It must not be flown as a standalone low-level circuit. For simulators, the environmental settings should be set to not more than 1.5 times the visibility minima of the circling approach minima. The circling approach may not be demonstrated in a flight simulator unless it is specifically approved for visual operations.
	(b) Conduct crosswind landing	Training record evidence of dual or solo competence in crosswinds of at least 70% of the AFM maximum and oral questioning should be used in the absence of a crosswind. In this case the examiner must indicate competency by marking the item on the flight test form with 'TR'.
	(c) Land and 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 and MCO competencies. The examiner should provide, where possible, applicable
	(b) Maintain situational awareness	

Phase of flight	Requirements	Recommendations
	(c) Assess situations and make decisions	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.
	(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) Operate effectively as a crew member	
	(j) Demonstrate effective leadership and authority	
	(k) Maintain multi-crew situational awareness	
	(l) Make effective decisions	
	(m) Operate in controlled airspace	NSR
	(n) Operate in Class G airspace	If applicable to test profile
	(o) Operate at controlled aerodrome	NSR
	(p) Operate at non-towered aerodrome	If applicable to test profile
	(q) Use correct radio procedures	NSR
	(r) 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).
	(s) Manage fuel system and monitor fuel plan and usage	NSR
	(t) Manage passengers and the carriage of cargo	The examiner should role play ground crew and passengers as applicable.

11.4.4 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 and in accordance with the flight check system (FCS), including failure to recall memory items (however described)
- sustained failure to maintain SOPs
- 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 or operations manual
- failure to demonstrate sound working knowledge of aeroplane automation (i.e.: FMS, AFDS, and/or MCP) or incorrect use of the aeroplane automation systems
- 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 or any specified altitude limitations when operating in IMC or simulated IMC
- 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 and MCO.

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.

11.5 Complete (post flight)

11.5.1 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.

11.5.2 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.