



# **DESIGNATED EXAMINER MANUAL**

*Maldives Civil Aviation Authority  
Republic of Maldives*

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## FOREWORD

The DESIGNATED EXAMINER (DE) is generally an experienced pilot, approved by the Chief Executive of Maldives Civil Aviation Authority. DEs are authorized to conduct Licensing Skill Tests (LSTs), Licensing Proficiency Checks (LPCs), Instrument Rating Tests (IRTs), on behalf of MCAA and Operator Proficiency Checks (OPCs) on behalf of Operators. When performing their duties, DEs are first and foremost acting as delegates of the Maldives Civil Aviation Authority according to the Maldives Civil Aviation Regulations – Aircrew.

### **The Designated Examiner Manual (DEM)**

The DEM comprises of 12 Chapter. The DEM is intended to be the main reference manual for the training and subsequent reference of examiners. MCAR-AIRCREW references are shown in italics. Examiners are not to rely on those references unless they are checked against the most recent version of MCAR-AIRCREW. Each Chapter contains quick reference tables. These are intended to provide the examiner with a precise reference of the essential requirements for each test/check.

An index to the topics within each Chapter is shown at the start of that Chapter. The following table describes the purpose of each Chapter.

- Chapter 1 –Guidance material for CAA in its management of its flight examiners
- Chapter 2 –A guide to the practical training of examiners
- Chapter 3 –Tables give a practical guide to the criteria to be considered by the examiner when assessing each item of MCAR-AIRCREW Aeroplane tests and checks
- Chapter 4 –Tables give a practical guide to the criteria to be considered by the examiner when assessing each item of MCAR-AIRCREW Helicopter tests and checks
- Chapter 5 –One table shows the tolerances applicable to all MCAR-AIRCREW tests and checks
- Chapter 6 –A guide to the structure of the PPL skill test for the training of the FE for the PPL
- Chapter 7 –A guide to the structure of the CPL skill test for the training of the FE for the CPL
- Chapter 8- A guide to the structure of the IR skill test for the IRE and proficiency checks for the IRE and CRE
- Chapter 9 –A guide to the structure of the skill test for rating issue and the revalidation proficiency check for the TRE and CRE
- Chapter 10 –A guide to the structure of the Airline Transport Pilot Licence (Aeroplane) – ATPL (A) and Multi-Crew Pilot Licence for the TRE
- Chapter 11 –A guide to the structure of flight instructor initial skill tests and revalidation proficiency checks for the FIE
- Chapter 12 –A guide to the structure of Line Training and checking with proficiency checks required by operator instructors and examiners

This Manual contains the standards, policies, procedures and guidelines concerning the Designated Examiner programme and is published for use by both CAA Flight Operations Inspectors and the Designated Examiners.

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**CHIEF EXECUTIVE**

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## CHAPTER 1 – GENERAL REQUIREMENTS

### Management of Flight Examiners

#### Contents:

- 1.1 Standardisation arrangements for examiners
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#### 1.1 Standardisation arrangements for examiners

##### EXAMINER CERTIFICATES

##### *FCL.1000 Examiner certificates*

##### (a) General

Holders of an examiner certificate shall:

- (1) hold an equivalent licence, rating or certificate to the ones for which they are authorised to conduct skill tests, proficiency checks or assessments of competence and the privilege to instruct for them;
- (2) be qualified to act as PIC on the aircraft during a skill test, proficiency check or assessment of competence when conducted on the aircraft.

##### (b) Special conditions

- (1) In the case of introduction of new aircraft in an operator's fleet, when compliance with the requirements is not possible, CAA may issue a specific certificate giving privileges for the conduct of skill tests and proficiency checks. Such a certificate will be limited to the skill tests and proficiency checks necessary for the introduction of the new type of aircraft and its validity will not, in any case, exceed 1 year.
- (2) Holders of a certificate issued in accordance with (b) (1) who wish to apply for an examiner certificate shall comply with the prerequisites and revalidation requirements for that category of examiner.

##### (c) Examination outside the Republic of Maldives

- (1) Notwithstanding paragraph (a), in the case of skill tests and proficiency checks provided in an ATO located outside the Republic of Maldives, CAA may issue an examiner certificate to an applicant holding a pilot licence issued in accordance with ICAO Annex 1, provided that the applicant:
  - (i) holds at least an equivalent licence, rating, or certificate to the one for which they are authorised to conduct skill tests, proficiency checks or assessments of competence, and in any case at least a CPL;
  - (ii) complies with the requirements established for the issue of the relevant examiner certificate; and
  - (iii) demonstrates to CAA an adequate level of knowledge of Maldivian aviation safety rules to be able to exercise examiner privileges.

- (2) The certificate referred to in paragraph (1) will be limited to providing skill tests and proficiency tests/checks:
- (i) outside the Republic of Maldives; and
  - (ii) to pilots who have sufficient knowledge of the language in which the test/check is given.

**(d) Monitoring of examiners**

**QUALIFICATION OF INSPECTORS**

Inspectors of CAA supervising examiners should ideally meet the same requirements as the examiners being supervised. However, it is unlikely that they could be so qualified on the large variety of types and tasks for which they have a responsibility and, since they normally only observe training and testing, it is acceptable if they are qualified for the role of an inspector.

**PREREQUISITES FOR EXAMINERS**

***FCL.1010 Prerequisites for examiners***

*Applicants for an examiner certificate shall demonstrate:*

- (a) relevant knowledge, background and appropriate experience related to the privileges of an examiner;*
- (b) that they have not been subject to any sanctions, including the suspension, limitation or revocation of any of their licences, ratings or certificates issued in accordance with this Part, for non-compliance with the Basic Regulation and its Implementing Rules during the last 3 years.*

**EXAMINER STANDARDISATION**

***FCL.1015 Examiner standardisation***

- (a) Applicants for an examiner certificate shall undertake a standardisation course provided by MCAA or by an ATO and approved by MCAA.*
- (b) The standardisation course shall consist of theoretical and practical instruction and shall include, at least:*
  - (1) the conduct of 2 skill tests, proficiency checks or assessments of competences for the licences, ratings or certificates for which the applicant seeks the privilege to conduct tests and checks;*
  - (2) instruction on the applicable requirements in this part and the applicable air operations requirements, the conduct of skill tests, proficiency checks and assessments of competence, and their documentation and reporting;*
  - (3) a briefing on the administrative procedures, requirements for protection of personal data, liability, accident insurance and fees.*
  - (4) a briefing on the need to review and apply the items in (3) when conducting skill tests, proficiency checks or assessments of competence of an applicant for which the competent authority is not the same that issued the examiner's certificate; and*
  - (5) an instruction on how to get access to these national procedures and requirements of other competent authorities when needed;*
- (c) Holders of an examiners certificate shall not conduct skill tests, proficiency checks or assessments of competence of an applicant for which the competent authority is not the same that issued the examiner's certificate, unless they have reviewed the latest available information containing the relevant national procedures of the applicant's competent authority.*

### 1.1.1 Authorisation as Senior Examiner

#### QUALIFICATION OF SENIOR EXAMINERS

- (a) A senior examiner specifically tasked by CAA to observe skill tests or proficiency checks for the revalidation of examiner certificates should:
  - (1) hold a valid or current examiner certificate appropriate to the privileges being given;
  - (2) have examiner experience level acceptable to CAA;
  - (3) have conducted a number of skill tests or proficiency checks as a Part-FCL examiner.
- (b) CAA may conduct a pre-assessment of the applicant carrying out a skill test and proficiency check under supervision of an inspector of CAA.
- (c) Applicants should be required to attend a senior examiner briefing, course or seminar arranged by CAA. Content and duration will be determined by CAA and would include:
  - (1) pre-course self-study;
  - (2) legislation;
  - (3) the role of the senior examiner;
  - (4) an examiner assessment;
  - (5) administrative requirements.
- (d) The validity of the authorisation would not exceed the validity of the examiners certificate, and in any case would not exceed 3 years. The authorisation may be revalidated in accordance with procedures established by CAA.

### 1.1.2 Period of validity

Senior Examiner has an authorisation as Examiner also with validity as in MCAR-AIRCREW, FCL.1025

### 1.1.3 Re-Authorisation

The re-authorisation of Senior Examiner is at the discretion of CAA and will include re-assessment arrangements established by CAA.

## 1.2 Register of examiners

- (a) CAA will develop an oversight programme to monitor the conduct and performance of examiners taking into account:
  - (1) the number of examiners it has certified; and
  - (2) the number of examiners certified by other competent authorities exercising their privileges within the territory where CAA exercises oversight.
- (b) CAA will maintain a list of examiners it has certified. The list will state the privileges of the examiners and be published and kept updated by CAA.
- (c) CAA will develop procedures to designate examiners for the conduct of skill tests.

Examiners need not have a residence within a designating geographical area of jurisdiction; however, an examiner must be able to provide examiner service in order to be considered for approval.

Examiner applicants will apply to CAA. A requests for the approval of an applicant who does not meet all of the applicable requirements may be accepted and may be forwarded to CAA for consideration. The request should include a statement of all special circumstances affecting the approval.

### 1.3 Initial Selection and Knowledge Tests

If the applicant meets the applicable MCAR-AIRCREW criteria, CAA will advise the applicant in writing if that application is accepted. The applicant may be called to undergo pre-approval Initial Flight Selection and Knowledge Tests.

At the discretion of CAA the applicant will take, as an Initial Flight Selection Test, the skill test applicable to the examiner approval sought.

#### 1.3.1 Use of ‘Dummies’ during the Acceptance Test for an Initial Examiners Authorisation

It is necessary to clarify the roles of the respective members of the Initial Acceptance Flight Test as follows:

<b>Applicant:</b>	Pilot requiring Initial Examiners Authorisation
<b>Dummy:</b>	Pilot acting as an Applicant
<b>Acceptance Test:</b>	Flight Test conducted by a Senior Examiner (SEN) for an Initial Examiners Authorisation

The purpose of the acceptance test is to prove that the applicant for an Initial Examiners Authorisation is proficient and capable to undertake the duties of an examiner.

#### 1.3.2 Duties of Crew During Acceptance Tests

It is important that all Pre-Flight Briefings are thorough and that all members of the flight are aware of their duties and responsibilities throughout the Acceptance Test.

#### 1.3.3 ‘Dummy’

The primary duty of a ‘Dummy’ is to act as an applicant in all aspects of the flight and should have available the relevant paperwork to show the examiner when requested. During the flight it is important that he makes some errors (whether by accident or by design is not important), so that the applicant must observe, exercise judgement, assess and have something to debrief on. The errors are important so that the applicant can be seen completing paperwork and detailing any retesting or retraining that may be considered necessary. The ‘dummy’ must not make the errors too subtle or set any traps for the applicant; he must try to produce a typical flight from a marginal applicant. The purpose of the flight is to ensure that the applicant is aware of his duties as an Examiner. A ‘Pass’ with no errors would prove very little. Therefore the ‘dummy’ needs to be an experienced examiner. Any other pilot acting as ‘dummy’ may be reluctant to make errors in case they would be recorded against him and have the possibility of losing his rating, also, he may not be sufficiently experienced to produce convincing errors.

#### 1.3.4 Senior Examiner (SEN)

The SEN must brief the applicant at the commencement of the exercise on their relative roles; i.e. the applicant will conduct the flight test without hindrance from the SEN, including briefings, conduct of flight, assessment and debrief and documentation. The SEN should remain as unobtrusive as possible throughout the test, but at the same time observing the ‘dummy’ and the applicant.

Following the completed flight, the SEN and the ‘dummy’ compare notes of the flight, after which the SEN debriefs the applicant.

### 1.3.5 Responsibilities

The applicant or his company would normally provide the aeroplane. When the applicant is occupying a pilot’s seat, he is the only one with a clear view and full access to the controls, and often is most familiar with the type, he must be the Pilot-in-Command and the safety of the flight is his responsibility. However, the SEN and the ‘Dummy’ also have an overriding responsibility not to endanger the aeroplane, but they may not have full access to lookout or controls.

### 1.4 Examiner Qualifications and Roles

There are six roles for Examiners:

1. **Flight Examiner (FE)** aeroplane (A), helicopter (H), airship (As), sailplane (S) and balloon (B).
2. **Type Rating Examiner (TRE)** aeroplane (A), powered-lift aircraft (PL) and helicopter (H).
3. **Class Rating Examiner (CRE)** aeroplane (A).
4. **Instrument Rating Examiner (IRE)** aeroplane (A) airship (As) and helicopter (H).
5. **Synthetic Flight Examiner (SFE)** aeroplane (A) powered-lift aircraft (PL) and helicopter (H).
6. **Flight Instructor Examiner (FIE)** aeroplane (A) airship (As), sailplane (S), balloons (B) and helicopter (H).

When the applicant is occupying a pilot’s seat, he is the only one with a clear view and full access to the controls, and often is most familiar with the type, he must be the PIC and the control of the aircraft is his responsibility. However, the Examiner has an overriding responsibility not to endanger the aeroplane, although he may not have full access to controls.

#### 1.4.1 Pre-requisites

*FCL.1010 Prerequisites for examiners*

*Applicants for an examiner certificate shall demonstrate:*

- (a) *relevant knowledge, background and appropriate experience related to the privileges of an examiner;*
- (b) *that they have not been subject to any sanctions, including the suspension, limitation or revocation of any of their licences, ratings or certificates issued, for non-compliance with the Regulations during the last 3 years.*
- (c) *When evaluating the applicant’s background, CAA would evaluate the personality and character of the applicant, and his/her cooperation with CAA.*
- (d) *CAA may also take into account whether the applicant has been convicted of any relevant criminal or other offenses, taking into account national law and principles of non-discrimination.*

#### 1.4.2 Roles

An examiner standardisation has to be attended and completed successfully in accordance with *AMCI FCL.1015 Examiner standardisation*.

#### Quick reference:

	<b>FE (LAPL) AUTHORISATION</b>
MCAR reference:	FCL.1005.FE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2127 / 2132
Test format:	<ul style="list-style-type: none"> <li>• Based on an LAPL Skill test: brief, conduct and assess a skill test flown by an examiner acting as the applicant.</li> <li>• The authorisation should be type specific.</li> </ul>

	<b>FE (PPL) AUTHORISATION</b>
MCAR reference:	FCL.1005.FE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2128
Test format:	<ul style="list-style-type: none"> <li>Based on the PPL Skill test: brief, conduct and assess a skill test flown by an examiner acting as the applicant.</li> <li>Where an authorisation is required for Multi-engine aeroplane/helicopter the test is to be conducted in that type/class</li> </ul>

	<b>FE (CPL) AUTHORISATION</b>
MCAR reference:	FCL.1005.FE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2130
Test format:	<ul style="list-style-type: none"> <li>Based on the CPL skill test: brief, conduct and assess a skill test flown by an examiner acting as the applicant.</li> <li>Where an authorisation is required for Multi-engine aeroplane/helicopter the test is to be conducted in that type/class</li> </ul>

	<b>TRE AUTHORISATION</b>
MCAR reference:	FCL.1005.TRE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2199
Test format:	<ul style="list-style-type: none"> <li>Based on the ATPL skill test: brief, conduct and assess a skill test flown by an applicant, or an examiner acting as the applicant.</li> <li>The authorisation will be type specific.</li> </ul>

	<b>CRE AUTHORISATION (not applicable to helicopter)</b>
MCAR reference:	FCL.1005.CRE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 1157 / 1157s
Test format:	<ul style="list-style-type: none"> <li>Based on the test for which the authorisation is sought: brief, conduct and assess a skill test or proficiency check profile for a SPA rating, flown by the examiner acting as the applicants.</li> <li>Where an authorisation is required for Multi-engine aeroplane the test is to be conducted in that type/class</li> <li>Where instrument rating revalidation privileges are required the test is to include all instrument rating test/check requirements</li> </ul>

	<b>IRE AUTHORISATION</b>
MCAR reference:	FCL.1005.IRE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2131
Test format:	<ul style="list-style-type: none"> <li>Based on the Instrument Rating skill test: brief, conduct and assess a skill test flown by an examiner acting as the applicant.</li> <li>Where an authorisation is required for multi-engine aeroplane/helicopter the test is to be conducted in that type/class</li> </ul>

	<b>SFE AUTHORISATION</b>
MCAR reference:	FCL.1005.SFE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form 2199
Test format:	<ul style="list-style-type: none"> <li>Based on the type rating skill test: brief, conduct and assess a skill test flown by an applicant, or an examiner or acting as the applicant.</li> <li>The authorisation will be flight simulator and Type Specific.</li> </ul>

<b>FIE AUTHORISATION</b>	
MCAR reference:	FCL.1005.FIE
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	CAA Form FE authorisation as appropriate
Test format:	<ul style="list-style-type: none"> <li>• Based on the Flight Instructor skill test: brief, conduct and assess an instructor skill test flown by the examiner acting as the applicant.</li> <li>• Present a Long Briefing on a subject (45 minutes) as an example briefing to a student flight instructor.</li> <li>• Take an oral exam on a range of subjects (2 hours)</li> <li>• Where an authorisation is required for both single and multi-engine aeroplane the required multi-engine elements of test are to be conducted in that type/class as a second flight</li> </ul>

### 1.5 Examiner training

Training for a first examiner authorisation will not commence until CAA has selected and approved the applicant for training.

Where a current examiner authorisation is held CAA will specify the required elements of training required. Where an examiner no longer holds a valid authorisation CAA will apply both selection requirements and specify the required elements of training required. Examiner Training content is explained at Chapter 2.

### 1.6 Authorisation

CAA will maintain a list of all examiners it has authorised stating for which roles they are authorised. The list will be made available to all ATOs and registered facilities. CAA will determine by which means the examiners will be allocated to do the skill test.

CAA will advise each applicant of the examiner(s) it has designated for the conduct of the skill test for the issue of an ATPL(A/H).

Examiners will be issued with a document showing precise details of:

- their authorisation;
- aeroplane/helicopter on which they may test/check;
- any restrictions to the authorisation; and
- any further privileges to the authorisation.

The grant of an authorisation will require the successful completion of the appropriate examiner acceptance test

### 1.7 Addition of privileges

Where the examiner requires the addition of a Type/Class, or other previously untested privilege to his authorisation, CAA will ensure that suitable training and testing is conducted before approving the altered authorisation

### 1.8 Multiple roles

Providing that the examiners meet the ratings and experience requirements for each separate role undertaken, examiners are not confined to a single role as FE, TRE, CRE, IRE, SFE, or FIE. However, CAA may also limit number of examiners roles, types and classes or specific makes and basic models on which any examiner may test.

## 1.9 Period of validity of an Authorisation

An examiner's authorisation is valid for not more than three (3) years. Examiners are re-authorised at the discretion of CAA, and in accordance with *MCAR-AIRCREW - FCL.1025*.

## 1.10 Examiner Re-authorisation

Examiners may be reauthorised in accordance with *MCAR-AIRCREW - FCL.1025*. To be reauthorised, the examiner should have conducted at least two skill tests or proficiency checks in every yearly period within the three year authorisation period. One of the skill tests or proficiency checks given by the examiner within the last 12 months of the authorisation period should have been observed by an inspector of CAA or by a senior examiner specifically authorised for this purpose.

### Quick reference:

<b>FE/FIE/CRE/TRE/SFE REAUTHORISATION</b>	
MCAR reference:	FCL.1025 Validity, revalidation and renewal of examiner certificates
Re-authorisation	An examiner's authorisation is valid for not more than three years and will be reauthorised at the discretion of CAA
Who can test:	An Inspector or Senior Examiner appointed by CAA
Form used:	Same forms as in 1.4.2
Test format:	<ul style="list-style-type: none"> <li>• Conduct at least 2 Skill tests or Proficiency checks in every yearly period within the 3 year authorisation period</li> <li>• 1 test in the last 12 months to be observed or a 'dummy' test</li> <li>• Compliance with current standardisation arrangements</li> <li>• Demonstration of knowledge of <i>MCAR-AIRCREW</i> and operational documents</li> </ul>

### 1.10.1 Combined Re-authorisation

Where an examiner holds more than one authorisation, CAA may approve the re-authorisation subject to compliance with the table 'Combination of Examiner Authorisations,' below.

The CAA will identify which of the authorisations held is to be used as the basis for observation. Other authorisations held by that examiner may then be checked orally to ensure the examiner can demonstrate:

- compliance with the required administration;
- knowledge of changes to *MCAR-AIRCREW* formats or requirements; and
- standardisation with *MCAR-AIRCREW* and CAA examiner requirements.

A new authorisation cannot be added by oral check alone and is to be actioned as an initial authorisation.

### Quick reference:

<b>Combination of Examiner Re-authorisations</b>		
<b>Examiner Authorisations</b>	<b>Who can test</b>	<b>Combined Re-authorisation - format</b>
IRE FIE FE. LAPL/PPL/ CPL TRE SFE CRE	Inspector or Senior Examiner authorised by CAA	<ol style="list-style-type: none"> <li>1. Observation of the test/check identified by the CAA.</li> <li>2. Oral questioning of all authorisations held to check for: <ul style="list-style-type: none"> <li>• compliance with the required administration</li> <li>• knowledge of changes to <i>MCAR-AIRCREW</i> formats or requirements</li> <li>• standardisation with <i>MCAR-AIRCREW</i> and CAA examiner requirements.</li> </ul> </li> </ol>



### **1.11 Authority to sign documentation after the Skill test/Proficiency check**

CAA may grant examiners authorisation to sign licence pages for the revalidation of items successfully passed by Proficiency Check.

In the case of a practical test with an actual applicant and an unsuccessful examiner applicant, the inspector will complete and sign the appropriate documentation.

### **1.12 Restrictions to the testing of applicants**

#### **1.12.1 Notification of Examiners**

*FCL.1005 Limitation of privileges in case of vested interests*

*Examiners shall **NOT** conduct:*

- (a) Skill tests or assessments of competence of applicants for the issue of a licence, rating or certificate:
  - (1) to whom they have provided flight instruction for the licence, rating or certificate for which the skill test or assessment of competence is being taken; or*
  - (2) when they have been responsible for the recommendation for the skill test, in accordance with FCL.030(b);**
- (b) Skill tests, proficiency checks or assessments of competence whenever they feel that their objectivity may be affected.*

*Examples of a situation where the examiner should consider if his/her objectivity is affected are when the applicant is a relative or a friend of the examiner, or when they are linked by monetary interests or political affiliations, etc.*

## CHAPTER 2 – EXAMINER TRAINING

### Practical Training of Examiners.

#### Contents:

- 2.1 General
- 2.2 Training Content
- 2.3 Test/Check Standards
- 2.4 Purpose of test and checks
- 2.5 Examiner preparation for test/check
- 2.6 Weather minima
- 2.7 Pre-flight – briefing
- 2.8 Applicant's planning and facilities
- 2.9 Airmanship
- 2.10 Assessment System
  - 2.10.1 Flight Management
  - 2.10.2 Conduct of test/check
  - 2.10.3 Repeat items
  - 2.10.4 Pass/fail criteria
  - 2.10.5 The result
- 2.11 Post flight – debrief
- 2.12 Complaints and Appeals

#### 2.1 General

It is intended that all applicants for authorisation should have received some formal training for this purpose before undertaking a test flight with an inspector/senior examiner. The training should be acceptable to the inspector observing the applicant.

The standards of competence of pilots depends to a great extent on the competence of examiners. Examiners will be briefed by CAA on the MCAR AIRCREW requirements, the conduct of skill tests and proficiency checks, and their documentation and reporting.

An inspector of CAA (or a senior examiner) will observe all examiner applicants conducting a test on an 'applicant' in an aeroplane/helicopter for which examiner authorisation is sought. Items from the 'Syllabi for training and skill tests/proficiency check will be selected by the inspector for examination of the 'applicant' by the examiner applicant. Having agreed with the inspector the content of the test, the examiner applicant will be expected to manage the entire test. This will include briefing, the conduct of the flight, assessment and debriefing of the 'applicant'. The inspector will discuss the assessment with the examiner applicant before the 'applicant' is debriefed and informed of the result

#### 2.2 Training Content

##### 2.2.1 Trainers

*AMCI FCL.1020, 1025; & FCL.1025*

Inspectors of CAA supervising examiners will ideally meet the same requirements as the examiners being supervised. However, it is unlikely that they could be so qualified on the large variety of types and tasks for which they have a responsibility and, since they normally only observe training and testing, it is acceptable if they are qualified for the role of an inspector.

CAA will employ, or have available, a sufficient number of inspectors or senior examiners to conduct, supervise and/or inspect the standardisation arrangements according to MCAR-AIRCREW.

## 2.2.2 Role and duties of the examiner

### AMC1 FCL.1020 Examiners assessment of competence

The standardisation arrangements should include, as appropriate to the role of the examiner, at least the following instruction:

- (a) requirements relevant to their examination duties;
- (b) fundamentals of human performance and limitations relevant to flight examination;
- (c) fundamentals of evaluation relevant to examinee's performance;
- (d) related MCARs;
- (e) Quality System as related to MCAR-AIRCREW; and
- (f) Multi-Crew Co-operation (MCC), Human Performance and Limitations, if applicable.

All items above are core knowledge requirements for an examiner and are recommended as core course material. This core course may be studied before recommended examiner training is commenced. The core course may utilise any training format.

## 2.2.3 Specific Flight Test and Check training

Detailed knowledge of the tests and checks for which the authorisation is sought is required. Training is to cover:

- Knowledge and management of the test for which the authorisation is to be sought. These are described in the relevant Chapter in this manual.
- Knowledge of the administrative procedures pertaining to that test/check
- For an initial examiner authorisation practical training in the examination of the test profile sought is required.
- An Examiner Authorisation Acceptance Test (EAAT) flight with an Inspector or senior examiner designated by CAA, e.g. for FE (PPL) this is to be the PPL skill test.

### Examples of acceptable means of compliance for initial examiner training

	CRE	TRE	FE(LAPL/PPLCPL)	FIE	IRE
<b>Core course</b>	<i>AMC1 FCL.1015 item (b) Examiner standardisation</i> <ul style="list-style-type: none"> <li>• DEM package</li> <li>• FEH where this is used nationally</li> <li>• Training course on MCAR-AIRCREW requirements and procedures</li> <li>• Package self-test</li> </ul>				
<b>Ground training</b>	<i>AMC1 FCL.1015 item (d) (1) Examiner standardisation</i> <b>Test of Core Course material</b> <ul style="list-style-type: none"> <li>• Test /check profiles</li> <li>• SE/ME test/check differences training (as required)</li> <li>• Partial pass criteria</li> <li>• Repeat criteria</li> <li>• Aborted test</li> <li>• Fail criteria</li> <li>• Use of STDs for test/check (as required)</li> </ul> <b>One half day to cover:</b> <ul style="list-style-type: none"> <li>• Administration</li> <li>• Revalidation by experience (SEP &amp; TMG) only</li> </ul>				
<b>Flight test and check training (flight)</b>	Two skill test/ proficiency check under supervision	One skill test or proficiency check under supervision	Two skill test/ proficiency check under supervision		
<b>Additional training</b>	To be determined by CAA				
<b>Flight test (additional to course)</b>	Examiner Authorisation Acceptance Test (EAAT) with an inspector/senior examiner authorised by CAA				

### 2.3 Test/Check Standards

Standards of performance are central to a consistent conduct of tests and checks by Examiners:

- a. Examiners will consistently apply MCAR-AIRCREW standards during a test/check. However, as the circumstances of each test/check conducted by an examiner may vary, it is also important that an examiner's test/check assessment takes into account any adverse condition(s) encountered during the test/check.
- b. It is emphasised that test/check applicants should concern themselves only with flying and operating the aeroplane/helicopter to the best of their ability. Definition of, and compliance with, the Test Standards is the responsibility of the Examiner, however these are shown in Chapter 3 and 4 in the interest of openness and as a reference for the Examiner and applicant.
- c. The Examiner is expected to display sound judgement particularly when establishing any abnormal or simulated emergency exercise so that the safety of the flight is never placed at risk.
- d. Throughout the flight compliance with briefing/checklists, procedures, anti-icing and de-icing precautions, airmanship, ATC liaison and compliance, RT procedures, flight management and MCC (where applicable) will be assessed.

Examiners are reminded that applicants may appeal against the conduct of any test/check.

### 2.4 Purpose of a test/check (AMC2 FCL.1015)

#### Definitions:

- **A Flight Test or Skill test** is a demonstration of knowledge and skill for a licence or rating issue and may include such oral examination as the Examiner may determine necessary.
- **A Proficiency Check** is a demonstration of continuing knowledge and skill to revalidate or renew ratings and may include such oral examination as the Examiner may determine necessary.

The purpose of a test/check is to:

- Determine through practical demonstration during a test/check that an applicant has acquired or maintained the required level of knowledge and skill/proficiency;
- Improve training and flight instruction in the registered facilities, ATOs by feedback of information from examiners concerning items/sections of tests/checks that are most frequently failed;
- Assist in maintaining and, where possible, improving air safety standards by having examiners display good airmanship and flight discipline during tests/checks.

Before undertaking a test/check an examiner will verify that the aeroplane/helicopter or synthetic training device intended to be used, is suitable and appropriately equipped for the test/check. Only aeroplane/helicopter or synthetic training devices approved by CAA for skill testing/proficiency checking may be used.

- a. Pre-flight briefing should include:
  - test/check sequence;
  - power setting and speeds; and
  - safety considerations.
- b. In-flight exercises should include:
  - each relevant item/section of the test/check.
- c. Post-flight de-briefing should include:
  - assessment/evaluation of the applicant; and
  - documentation of the test/check with the applicants FI present, if possible.

## **2.5 Examiner preparation for test/check (AMC2 FCL.1015)**

A test/check is comprised of:

- oral examination on the ground (where applicable);
- pre-flight briefing;
- in-flight exercises; and
- post-flight de-briefing

### **2.5.1 Examiner Approach (AMC2 FCL.1015)**

An examiner should encourage a friendly and relaxed atmosphere to develop both before and during a test/check flight. A negative or hostile approach should not be used. During the test/check flight, the examiner should avoid negative comments or criticisms and all assessments should be reserved for the de-briefing.

An examiner should supervise all aspects of the test/check flight preparation, including, where necessary, obtaining or assuring an ATC “slot” time.

An examiner shall plan a test/check in accordance with MCAR-AIRCREW requirements. Only the manoeuvres and procedures set out in the appropriate test/check form will be undertaken. The same examiner should not re-examine a failed applicant without the agreement of the applicant.

The examiner will be the pilot-in-command, except in circumstances agreed by the examiner.

### **2.5.2 Test/check scheduling (GM FCL.1015)**

An examiner should plan per working day not more than three test checks relating to LAPL, PPL, CPL, IR or class rating, or more than two tests/checks related to FI, CPL/IR and ATPL or more than four tests/checks relating to type/rating.

An examiner should plan at least three hours for a LAPL, PPL, CPL, IR or class rating test/checks, and at least four hours for FI, CPL/IR, ATPL or type rating tests/checks, including pre-flight briefing and preparation, conduct of the test/check, de-briefing and evaluation of the applicant and documentation.

An examiner should allow an applicant adequate time to prepare for a test/check, normally not more than one hour.

An examiner should plan a test/check flight so that the flight time in an aeroplane/helicopter or ground time in an approved synthetic training device is not less than:

- 90 minutes for LAPL, PPL and CPL, including navigation section;
- 60 minutes for IR, FI and single pilot type/class rating; and
- 120 minutes for CPL/IR and ATPL.

### **2.5.3 Preparing for the applicant (AMC2 FCL.1015)**

Before meeting the applicant the Examiner must be properly prepared for the flight. The Examiner should supervise all aspects of the test/check flight preparation, including, where necessary, obtaining or assuring an ATC services as required.

The Examiner will plan a test/check in accordance with MCAR-AIRCREW requirements. Only those manoeuvres and procedures required in the appropriate test/check form will be undertaken.

- a. Adequate and appropriate briefing/debriefing facilities must be used for all tests.
- b. Instruction for the associated theoretical knowledge examinations will always have been completed before each skill test is taken.

- c. Knowledge elements not evident in the demonstrated skills may be tested by questioning, at any time, during the flight event. Questioning in flight should be used judiciously so that safety is not jeopardised. Questions may be deferred until after the flight portion of the test is completed.
- d. For aeroplane/helicopter requiring only one pilot, the examiner may not assist the applicant in the management of the aeroplane/helicopter, radio communications, tuning and identifying navigational equipment, and using navigation charts.
- e. If occupying a pilot seat the examiner will not take part in the operation of the aeroplane/helicopter other than for safety.
- f. Flight Safety will be the prime consideration at all times. The examiner, applicant and any other crew will be alert for other traffic.

Expansion of the details of the items a. to f. above are covered under the relevant paragraph headings below.

#### 2.5.4 Route/profile planning

A test/check is intended to represent a practical flight. Accordingly, an examiner may set practical scenarios for an applicant while ensuring that the applicant is not confused and air safety is not compromised.

#### 2.6 Weather minima

A test/check flight shall be conducted in accordance with the aeroplane/helicopter flight manual (AFM) and, if applicable, the aeroplane/helicopter operators manual (AOM).

A test/check flight shall be conducted within the limitations contained in the operations manual of an ATO and, where applicable, the operations manual of the registered facility.

The CAA may have determined for examiners the minimum conditions, below which assessment may be considered too difficult, by using the table below.

#### Quick reference:

Surface Wind	Cloud Ceiling	Visibility
Maximum 25 knots cross	1500 feet	5 kilometres

Pre-flight preparation requires the applicant to assess the weather conditions and make his decision whether to proceed with the flight. The applicant must take into account the requirements of all the sections of the test that he is taking. The Examiner is to assess the applicant’s decision. A decision to continue when the weather is forecast below the limits required to complete the flight will be considered a fail item for test/check

Those sections/items of the test which are required to be flown by sole reference to instruments will be simulated by using suitable equipment to simulate IMC.

Awareness of icing conditions must be displayed by regularly checking the outside air temperature and carburettor heat where appropriate. The applicant should be able to use any anti/de-icing equipment fitted to the aeroplane/helicopter. If actual ice is present the necessary equipment or actions must be used. Training or preparation must ensure an operating procedure for using aeroplane/helicopter icing equipment particularly with reference to pitot heaters, carburettor heat, engine/propeller and airframe anti-icing. The aeroplane/helicopter must not be flown deliberately into icing conditions if this is contrary to the aeroplane/helicopter flight manual

## **2.7 Pre Flight – briefing**

### **2.7.1 Examiner approach**

The performance of an applicant under test conditions will often be adversely affected by some degree of nervous tension, but the Examiner can do much to redress the balance in his favour by the adoption of a friendly and sympathetic attitude. Any suggestion of haste during briefing should be avoided and the applicant should be encouraged to ask as many questions as he wishes at the conclusion of each section. Clear and unhurried instructions at this stage will not only serve to put the applicant at his ease, but will ensure when airborne that the flight proceeds smoothly and without unnecessary delay.

### **2.7.2 Construction of the Briefing**

The pre-flight briefing may be given as one or more separate elements, as required, to give the applicant the maximum opportunity to understand and prepare what is required of him.

### **2.7.3 Briefing content**

The applicant should be given time and facilities to prepare for the test flight. The briefing should cover the following:

- a. the objective of the flight;
- b. licensing checks, as necessary;
- c. freedom for the applicant to ask questions;
- d. operating procedures to be followed (e.g. operators manual);
- e. weather assessment;
- f. operating capacity of applicant and examiner;
- g. aims to be identified by applicant;
- h. simulated weather assumptions (e.g. icing, cloud base);
- i. contents of exercise to be performed;
- j. agreed speed and handling parameters (e.g. V-speeds, bank angle);
- k. use of R/T;
- l. respective roles of applicant and examiner (e.g. during emergency); and
- m. administrative procedures (e.g. submission of flight plan) in flight.

Examiner training must focus on the requirements to maintain the necessary level of communication with the applicant. The following check details should be followed by the examiner applicant:

- a. involvement of examiner in a multi-pilot operating environment;
- b. the need to give the ‘applicant’ precise instructions;
- c. responsibility for safe conduct of the flight;
- d. intervention by examiner, when necessary;
- e. use of screens;
- f. liaison with ATC and the need for concise, easily understood intentions;
- g. prompting the ‘applicant’ regarding required sequence of events (e.g. following a go-around); and
- h. keeping brief, factual and unobtrusive notes.

## **2.8 Applicant’s Planning and facilities**

The Examiner will conduct each test/check in such a manner as to conform to the guidance given by CAA such that each applicant is allowed adequate time for the test, normally not more than one hour.

Adequate Planning facilities must be available to the applicant. The examiner will check that the applicant is aware of where resources are. A quiet briefing room should be used so that the planning can be completed without interruption or distraction.

Planning will be completed without assistance from other students or instructors. Current ATC and Met information must be obtained. Any booking requirements should be made, by the applicant, in adequate time for the flight.

A flight log should be prepared and the Examiner may request a copy. The log may include such items as:

- Route (including flight to the planned alternate aerodrome).
- Communication and navigation aid frequencies (note that where this information is clearly displayed on planning documents, such as the charts to be used, it is not necessary to copy that information to the log);
- Planned levels and altitudes;
- Timings, ETAs;
- MSA, safety height or minimum levels/altitudes;
- Fuel (showing contingency fuel and space to plot fuel remaining at way points); and
- Space for logging ATIS and clearances in a chronological order.

The route may require flight through airspace other than Class G airspace and consideration should be given to any special precautions during planning.

Planning and preparation must be completed by the crew using material acceptable to CAA. Computerised flight/navigation plans or aeroplane/helicopter mass and balance calculations may be used during the allowed planning period. The applicant remains solely responsible for all planning calculations.

Applicants will be required to calculate take-off and landing performance for the conditions prevailing, usually for the most limiting runway expected on the flight.

## **2.9 Airmanship**

### **2.9.1 Definition**

The complex of all resources (knowledge, attitude and skills) enabling the pilot to safely handle his aeroplane/helicopter with due regard to rules and regulations, whatever the circumstances, both on the ground and in the air. Human resources includes all other groups routinely working with the pilot who are involved in decisions that are required to operate a flight safely. These groups may include, but are not limited to dispatchers, cabin crewmembers, maintenance personnel and air traffic controllers. Airmanship is not a single task but is a set of competencies, which must be evident in all tasks, conducted throughout the practical test standard as applied to a skill test or proficiency check.

### **2.9.2 Airmanship competencies**

Airmanship competencies may be grouped into three clusters of observable behaviour:

#### **1. COMMUNICATIONS PROCESSES AND DECISIONS**

- a. Briefing;
- b. Inquiry/Advocacy/Assertiveness;
- c. Self-Criticism;
- d. Communication with available personnel resources;
- e. Use of checklists;
- f. Decision making.

#### **2. BUILDING AND MAINTENANCE OF FLIGHT COOPERATION**

- a. Leadership/Team skills;
- b. Interpersonal Relationships.



### 3. WORKLOAD MANAGEMENT AND SITUATIONAL AWARENESS

- a. Preparation/Planning
- b. Vigilance
- c. Workload Distribution
- d. Distraction Avoidance
- e. Avoidance of undesirable situations (e.g., wake turbulence, inadequate aeroplane/helicopter spacing)

#### 2.9.3 How the Examiner Assesses Airmanship

The majority of aviation accidents and incidents are due to poor resource management failures by the pilot. Fewer are due to technical failures.

Pass/Fail judgements based solely on Airmanship issues must be carefully chosen since they may be entirely subjective. It is not practical to give a comprehensive list of Airmanship considerations, however, the 3 'cluster areas' described above include items which the applicant may forget to complete (e.g. correct radio calls) while others are an indication of his capacity to deal with present or evolving flight conditions (e.g. poor spacing from other aeroplane/helicopter or airspace awareness). It is, therefore, the examiner's role to observe how the applicant manages the resources available to him to achieve a safe and uneventful flight. The examiner must be satisfied that the success of the flight was a result of good airmanship and not good luck.

If the applicant shows early and consistent awareness of airmanship considerations (e.g. repetitive checking of icing conditions in a level cruise clear of icing conditions) the examiner may allow the applicant to brief only changes during the remainder of the flight.

Examiners themselves are required to exercise proper Airmanship competencies in conducting tests/checks as well as expecting the same from applicants.

#### 2.10 Assessment System

##### 2.10.1 Flight management

An examiner should maintain a flight log and assessment record during the test/check for reference during the post/flight de-brief.

This record should be compiled without alerting or attracting the attention of the applicant.

- Communications in flight should only be necessary to prompt the applicant regarding required sequence of events using concise and easily understood intentions (e.g. following a go-around).
- An examiner should be flexible to the possibility of changes arising to pre-flight briefs due to ATC instructions, or other circumstances affecting the test/check.
- Where changes arise to a planned test/check an examiner should be satisfied that the applicant understands and accepts the changes. Otherwise, the test/check flight should be terminated.
- Should an applicant choose not to continue a test/check for reasons considered inadequate by an examiner, the applicant will retake the entire skill test. If the test/check is terminated for reasons considered adequate by the examiner, only those items/sections not completed will be tested in a further flight.

An examiner should terminate a test/check only for the purpose of assessing the applicant, or for safety reasons.

Except when the Examiner has to give guidance or a reminder, the applicant should be allowed to conduct the flight without interruption. It should be remembered, however, that the Examiner is responsible for the safe conduct of the flight and the prevention of any infringements.

### 2.10.2 Conduct of Test/check

Each item within a test/check section should be completed and assessed separately. The test/check schedule, as briefed, should not, normally, be altered by an examiner.

Marginal or questionable performance of a test/check item should not influence an examiner's assessment of any subsequent items.

An examiner should verify the requirements and limitations of a test/check with an applicant during the pre-flight briefing.

When a test/check is completed or discontinued, an examiner should de-brief the applicant and give reasons for items/sections failed. In the event of a failed or discontinued skill test or proficiency check, the examiner should provide appropriate advice to assist the applicant in re-tests/re-checks.

Any comment on, or disagreement with, an examiner's test/check evaluation/assessment made during debrief should be recorded by the examiner on the test/check report, and should be signed by the examiner and countersigned by the applicant.

Although test/checks may specify flight test tolerances, an applicant should not be expected to achieve these at the expense of smoothness or stable flight. An examiner should make due allowance for unavoidable deviations due to turbulence, ATC instructions, etc.

The examiner applicant should refer to the flight test tolerances given in (MCAR AIRCREW– PART FCL and Chapter 5 for the appropriate test) Attention should be paid to the following points:

- a. questions from the 'applicant';
- b. give results of the test and any sections failed; and
- c. give reasons for failure.

### 2.10.3 Repeat items

At the discretion of the examiner, any manoeuvre or procedure of the test/check may be repeated once by the applicant. An examiner may terminate a test/check at any stage, if it is considered that the applicant's competency requires a complete re-test/re-check.

### 2.10.4 Pass/Fail criteria

The examiner is to check MCAR-AIRCREW references for pass fail criteria relevant to the test to be conducted. In general the guidance is:

**For SPA:** The applicant will pass all sections of the skill test/proficiency check. If any item in a section is failed, that section is failed. Failure in more than one section will require the applicant to take the entire test/check again. Any applicant failing only one section will take the failed section again. Failure in any section of the re-test/re-check including those sections that have been passed at a previous attempt will require the applicant to take the entire test/check again.

**For MPA:** The applicant will pass all sections of the skill test/proficiency check. Failure of more than five items will require the applicant to take the entire test/check again. Any applicant failing 5 or less items will take the failed items again. Failure in any item on the re-test/check including those items that have been passed at a previous attempt will require the applicant to take the entire check/test again.

### 2.10.5 The Result

There are several methods for evaluating an applicant's performance. Examiners may select the method which they wish to use.

Two methods will be considered here:

- a. Grading
- b. Objective Assessment

### 2.10.5.1 Grading

Grading is an option on some forms used for tests/checks. However, its use is optional.

The "Acceptable Performance" section of each exercise outlines the grading criteria. These criteria assume no unusual circumstances. Consideration will be given to unavoidable deviations from the published criteria due to weather, traffic or other situations beyond the reasonable control of the applicant. To avoid the need to compensate for such situations, the tests should be conducted under normal conditions whenever possible.

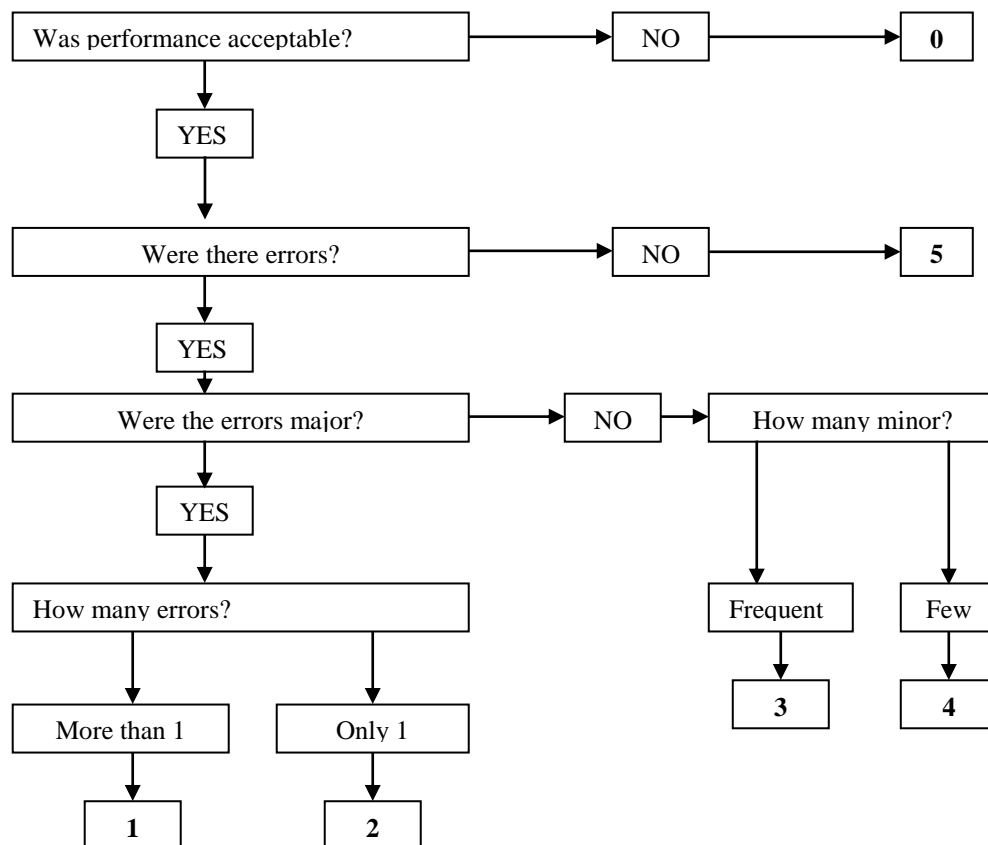
Grade	Description
5	The ideal performance under existing conditions. Anticipates and adapts easily to changing or unusual flight situations.
4	Aim of exercise safely achieved with very few minor variations from ideal. Performance shows smooth control of aeroplane/helicopter.
3	Aim of the exercise safely achieved with frequent minor but no major variations from the ideal.
2	Aim of the exercise safely achieved. Performance includes not more than one major variation from the ideal and may include frequent minor variations from the ideal.
1	Aim of exercise safely achieved in a rough manner. Performance includes more than one major variation from the ideal and indicates a level of skill or knowledge, which results in a marginally acceptable performance.
0	Any one of the following will result in an assessment of fail: <ul style="list-style-type: none"> <li>• Aim of exercise not completed.</li> <li>• Insufficient level of knowledge to ensure safety.</li> <li>• Aim of exercise completed but at expense of using unsafe airmanship and/or handling errors.</li> <li>• Dangerous aeroplane/helicopter handling requiring assistance from examiner.</li> <li>• Tolerances specified in the flight test standards exceeded.</li> </ul>

Written remarks are required when awarding a flight test exercise a mark of 2 or less. The remarks should be clear and concise and in the case of an exercise assessed as:

- Grades 1 or 2 reflect the major variation(s) from the Acceptable Performance for the exercise as outlined in the appropriate flight test standards; or
- Grades 0 reflect the appropriate item or items that result in an assessment of fail as listed in the Grading Scale section of the flight test Standard(s).

During a flight test, it is sometimes difficult to write clear and concise remarks. It is recommended that examiners use notes made during the flight test to complete a final copy of the Flight Test Report. This provides the examiner with the opportunity of referencing the appropriate flight test standards while writing final comments.

The diagram shown below will assist the examiner in following a logical sequence of steps to arrive at a mark when evaluating the applicant's performance of a particular flight test item. By starting at the top of the diagram and mentally reviewing and answering each question in sequence, it is possible to arrive at a mark to be awarded. The accuracy of the assessment will depend entirely on the examiner's knowledge of the Acceptable Performance requirements for each flight test exercise and the Grading Scale.



### 2.10.5.2 Objective Assessment

#### SATISFACTORY PERFORMANCE

The ability of an applicant to safely perform the required assignments is based on:

- Performing the assignments specified in the Examiner’s Manual for the licence or rating sought within the approved standards
- Demonstrating control of the aeroplane/helicopter and flight with the successful outcome of each assignment performed never seriously in doubt
- Demonstrating sound judgement and crew resource management and single-pilot competence if the aeroplane/helicopter is type certificated for single-pilot operations

#### UNSATISFACTORY PERFORMANCE

Consistently exceeding the relevant tolerances stated in Chapter 5, or failure to take prompt, corrective action when tolerances are exceeded is indicative of unsatisfactory performance. The tolerances represent the performance expected in good flying conditions. Any action or lack thereof, by the applicant, who requires corrective intervention by the examiner to maintain safe flight, will be disqualifying.

If a repeat item is not clearly satisfactory, the examiner will consider it unsatisfactory

#### RESULT

An examiner will use one of the following terms of assessment:

**Quick reference:**

**AEROPLANE**

<b>Reference</b>	The examiner is to check MCAR-AIRCREW references for pass fail criteria relevant to the test to be conducted. In general the guidance is:
<b>Pass</b>	The applicant will pass all sections of the skill test or proficiency check
<b>Partial Pass</b>	<b>For SPA:</b> If any item in a section is failed, that section is failed. Any applicant failing only one section will take the failed section again. The applicant retaking only that failed section, plus the departure section often completes the partial pass. Should either of those two be failed at a second attempt then the result of that test if a fail.  <b>For MPA:</b> Any applicant failing 5 or less items will take the failed items again.
<b>Fail</b>	<b>For SPA:</b> If any item in a section is failed, that section is failed. Failure in more than one section will require the applicant to take the entire test/check again. Failure in any section of the re-test/re-check including those sections that have been passed at a previous attempt will require the applicant to take the entire test/check again.  <b>For MPA:</b> The applicant will pass all sections of the skill test/proficiency check. Failure of more than five items will require the applicant to take the entire test/check again. Failure in any item on the re-test/check including those items that have been passed at a previous attempt will require the applicant to take the entire check/test again; provided that any of the following apply: i. the flight test tolerances have been exceeded after the examiner has made due allowance for turbulence or ATC instructions; ii. the aim of the test/check is not completed; iii. the aim of exercise is completed but at the expense of unsafe flight, violation of a rule or regulation, poor airmanship or rough handling; iv. an acceptable level of knowledge is not demonstrated; v. an acceptable level of flight management is not demonstrated; or vi. the intervention of the examiner or safety pilot is required in the interest of safety.
<b>Incomplete tests</b>	Should an applicant choose not to continue a test/check for reasons considered inadequate by an examiner, the applicant will retake the entire skill test. If the test/check is terminated for reasons considered adequate by the examiner, only those items/sections not completed will be tested in a further flight.

**HELICOPTER**

<i>Reference</i>	The examiner is to check MCAR-AIRCREW references for pass fail criteria relevant to the test to be conducted. In general the guidance is:
<i>Pass</i>	Provided the applicant demonstrates the required level of knowledge, skill/proficiency and, where applicable, remains within the flight test tolerances for the licence or rating
<b>Partial Pass</b>	The partial pass is not always an option on test/check. However, when applicable it is used to indicate that only one section of the test profile was failed. The applicant retaking only that failed section, plus the departure section often completes the partial pass. Should either of those two be failed at a second attempt then the result of that test if a fail.
<b>Fail</b>	A “fail” provided that any of the following apply: i. the flight test tolerances have been exceeded after the examiner has made due allowance for turbulence or ATC instructions; ii. the aim of the test/check is not completed; iii. the aim of exercise is completed but at the expense of unsafe flight, violation of a rule or regulation, poor airmanship or rough handling; iv. an acceptable level of knowledge is not demonstrated; v. an acceptable level of flight management is not demonstrated; or vi. the intervention of the examiner or safety pilot is required in the interest of safety.
<b>Incomplete tests</b>	Should an applicant choose not to continue a test/check for reasons considered inadequate by an examiner, the applicant will retake the entire skill test. If the test/check is terminated for reasons considered adequate by the examiner, only those items/sections not completed will be tested in a further flight.

### 2.10.5.3 Factors affecting Evaluation

#### Comparing Applicants with each other

When working with a group of applicants, there may be a tendency to compare one applicant to the other. It's a natural thing to do. When conducting a flight test however, compare the applicant's performance to the standard expressed in the *Performance Criteria* not to a person who is more or less skilled. The reason for this is, of course, to give the applicant a fair and valid flight test.

#### Characteristics of Evaluation

An evaluation may become useless if certain principles are not respected. The following **four characteristics**, when used carefully in the conduct of a flight test, will result in an accurate and effective evaluation.

#### RELIABILITY

Reliability ensures consistent results. As applied to the flight test, this would mean that two identical performances should result in the same flight test score. Human factors can have a significant effect on flight test reliability.

Some of these factors are:

- a) fatigue - insufficient sleep or rest prior to the test
- b) emotions - work or home personal problems
- c) health - cold, flu, etc.
- d) time of day - very early in the morning, or last trip of the day
- e) distractions - noise, interruptions, etc.

Examiners should be conscious of these factors and attempt to limit their effects as much as possible for they may result in a lack of smoothness or accuracy in the applicant's performance. Examiners should also be aware that their ability to accurately assess the applicant's performance could be adversely affected by these same factors.

Testing for the purpose of licensing must remain clearly removed from training in order to maintain the reliability of an evaluation. For example, a second or third attempt, in air flight test items, may give the applicant the immediate practice needed to demonstrate a maneuver adequately. For this reason, an item will not be repeated unless one of the following conditions applies:

- a) Discontinuance. Discontinuance of a maneuver for valid safety reasons; i.e., a go-around or other procedure necessary to modify the originally planned maneuver.
- b) Collision Avoidance. Examiner intervention on the flight controls to avoid another aircraft that the applicant could not have seen due to position or other factors.
- c) Misunderstood Request. A legitimate instance when an applicant does not understand an Examiner's request to perform a specific maneuver. An applicant's failure to know the requirements of a specified maneuver is not grounds for repeating a task or maneuver.
- d) Other Factors. Any condition where the Examiner was distracted to the point that the applicant's performance of the maneuver (radio calls, traffic, etc.) could not adequately be observed.

#### VALIDITY

Tests are valid if they measure what they are supposed to measure and nothing else. Assessment of ground and air items must remain within the bounds of the appropriate flight test standards. The scope of the test must be such that when applicants pass, they have met the skill requirements for the issuance of the certificate, licence or rating sought.

#### COMPREHENSIVENESS

A test is comprehensive if it contains a sample of all course material and measures each area of skill and knowledge required to ensure the standard is met. Flight tests will be *comprehensive* if the Examiner conforms to the items listed in the applicable modules with no additions or deletions.

#### OBJECTIVITY

Objectivity ensures the Examiner's personal opinions *will not* affect the outcome or assessment of the test. Marks awarded must be made in accordance with the applicable performance criteria. Flight test marks are influenced to some degree by subjective opinions. Assessments will be more valid, less subjective, if the Examiner is an experienced pilot, has sound and adequate background knowledge of the evaluation process and the expertise to accurately assess flight test applicants without prejudice.

#### 2.10.5.4 The components of the Threat and Error Management (TEM) Model



#### **THREATS**

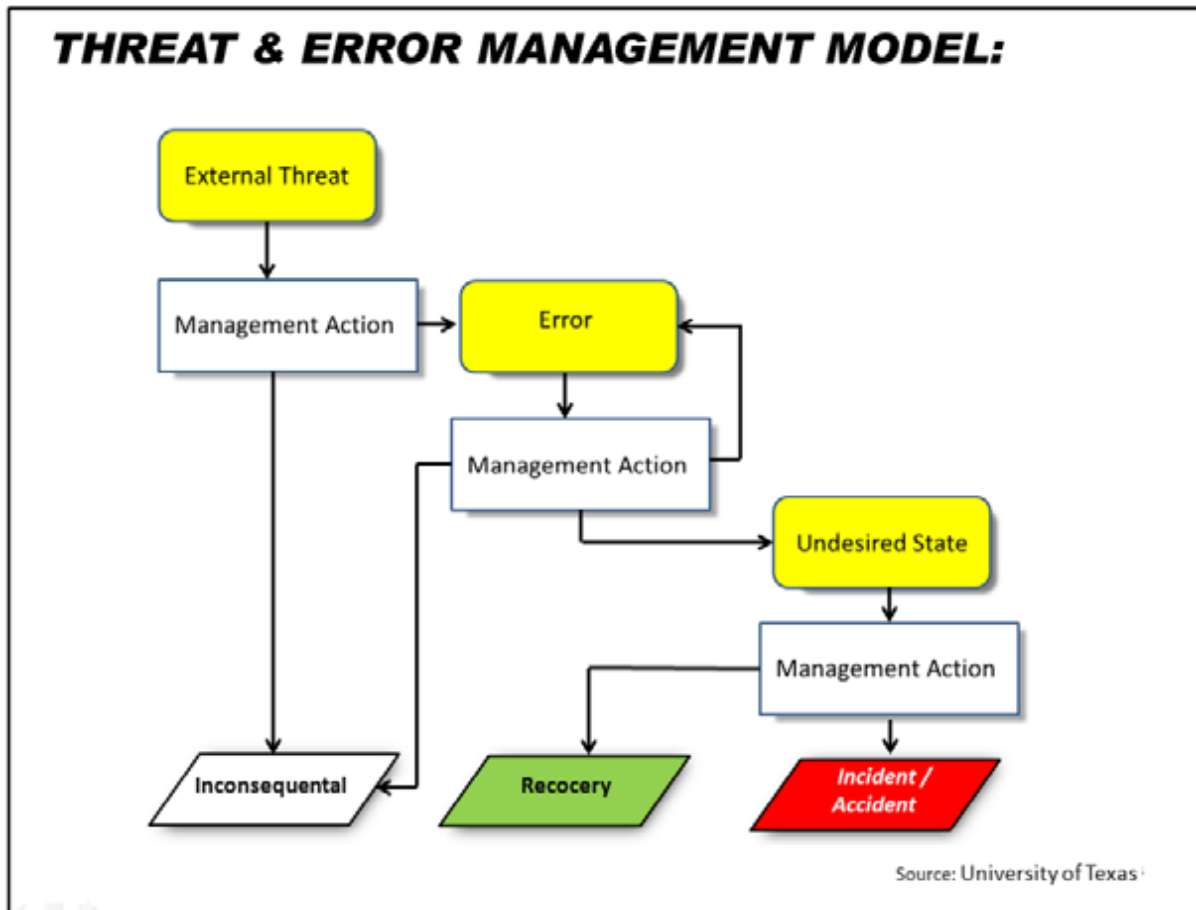
Threats are defined as events or errors that occur beyond the influence of the flight crew, increase operational complexity, and which must be managed to maintain the margins of safety. During typical flight operations, flight crews have to manage various contextual complexities. Such complexities would include, for example, dealing with adverse meteorological conditions, airports surrounded by high mountains, congested airspace, aircraft malfunctions, errors committed by other people outside of the cockpit, such as air traffic controllers, flight attendants or maintenance workers, and so forth.

The TEM Model considers these complexities as threats because they all have the potential to negatively affect flight operations by reducing margins of safety.

Some threats can be anticipated, since they are expected or known. For example, flight crew can anticipate the consequences of adverse weather or prepare for a congested airport by making sure they keep a watchful eye for other aircraft as they execute the approach.

Some threats can occur unexpectedly, such as an in-flight aircraft malfunction that happens suddenly and without warning. In this case flight crew applies skills and knowledge acquired through training and experience. Lastly, some threats may not be directly obvious to flight crew immersed in the operational context, and may need to be uncovered by safety analysis. These are considered latent threats.

Examples of latent threats include equipment design issues, optical illusions or time pressures. Regardless of whether threats are expected, unexpected, or latent; one measure of the effectiveness of a flight crew's (single pilot) ability to manage threats is whether threats are detected with the necessary anticipation to enable the flight crew to respond to them through deployment of appropriate counter-measures. Threat management is a building block to error management and undesired aircraft state management. Although the threat error linkage is not necessarily straightforward, or it may not be always possible to establish a linear relationship, or one-to-one mapping between threats, errors and undesired states, archival data demonstrates that mismanaged threats are normally linked to flight crew/pilot errors, which in turn are often linked to undesired aircraft states. Threat management provides the most proactive option to maintain margins of safety in flight operations, by voiding safety compromising situations at their root.



**ERRORS**

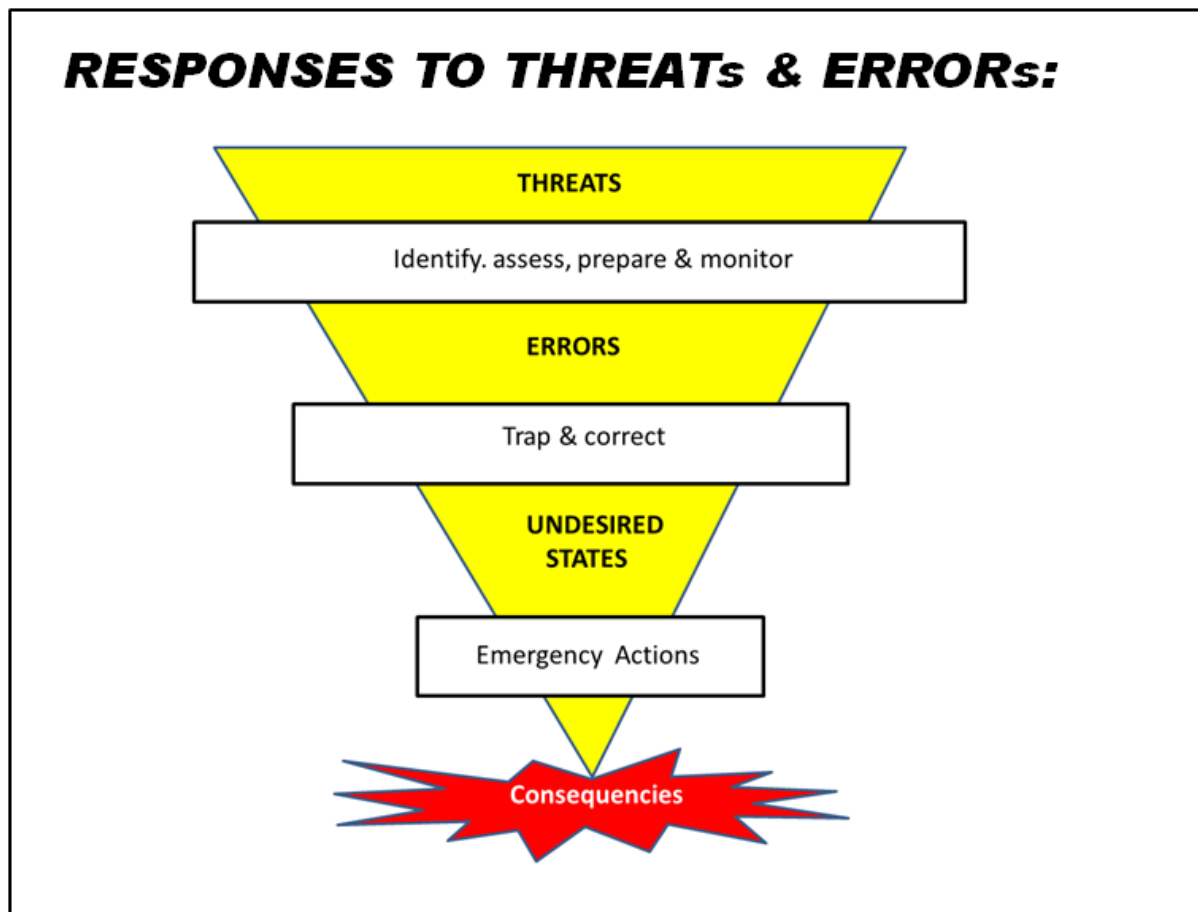
Errors are defined actions or inactions by the flight crew that lead to deviations from organizational or flight crew intentions or expectations. Unmanaged and/or mismanaged errors frequently lead to undesired aircraft states. Errors in the operational context thus tend to reduce the margins of safety and increase the probability of adverse events.

Errors can be spontaneous (i.e., without direct linkage to specific, obvious threats), linked to threats, or part of an error chain. Examples of errors would include the inability to maintain a stabilized approach, executing a wrong automation mode, miss-setting an altimeter pressure or misinterpreting an ATC clearance.

Regardless of the type of error, an error’s effect on safety depends on whether the flight crew detects and responds to the error before it leads to an undesired aircraft state and to a potential unsafe outcome. This is why one of the objectives of TEM is to understand error management (i.e., detection and response), rather than solely focusing on error causality (i.e., causation and commission). From the safety perspective, operational errors that are timely detected and promptly responded to (i.e., properly managed), that do not lead to undesired aircraft states, do not reduce margins of safety in flight operations, and thus become operationally inconsequential. In addition to its safety value, proper error management represents an example of successful human performance, presenting both learning and training value. Capturing how errors are managed is then as important, if not more, than capturing the prevalence of different types of error. It is of interest to capture if and when errors are detected and by whom, the response(s) upon detecting errors, and the outcome of errors.

Some errors are quickly detected and resolved, thus becoming operationally inconsequential, while others go undetected or are mismanaged. A mismanaged error is defined as an error that is linked to or induces an additional error or undesired aircraft state. Examiners should familiarize themselves with the concept of TEM and examine these principles when assessing general Airmanship.





### 2.10.6.3 Evaluation Errors

In order to test effectively, the Examiner requires not only a sound knowledge of the *characteristics of evaluation*, but also a firm understanding of the possible errors that can occur throughout the *evaluation process*. Errors in evaluation fall into several categories.

#### PERSONAL BIAS ERROR

Personal bias is indicated by the tendency of an Examiner to rate applicants or a particular group of applicants the same. Examiners must conduct all flight tests in accordance with the standards expressed in the applicable flight test guide. An Examiner must not allow personal prejudices to interfere with the objective evaluation of a applicant's performance.

#### CENTRAL TENDENCY ERRORS

Central tendency errors are indicated by a tendency to rate all or most applicants as *average*. The Examiner really “feels” that the performance of most applicants is not as good as it should be and therefore underscores a applicant’s good performance. On the other hand, the Examiner is reluctant to cope with the possible emotional response of an applicant or a recommending instructor. This results in padded or inflated assessments of poor performance. This error may also occur because an Examiner does not want to put effort into making a decision. An average mark is easier to defend.

#### GENEROSITY ERRORS

Generosity errors are indicated by a tendency to rate all individuals at the *high end* of the scale and are probably the most common type of personal bias. This could be caused by an Examiner’s desire to be known as a nice person.

In this case, all or most applicants are graded at the *low end* of the marking scale. Examiners may feel that the published standards are too low and score the test against their own set of standards. This type of Examiner feels that few people can fly as well as they can.

### **HALO EFFECT**

This occurs when an Examiner's impression of an applicant is allowed to influence the assessment of performance. Halo error can result in rating an applicant too high or too low. One form of halo error is the error of leniency. Leniency has its source in an Examiners likes, dislikes, opinions, prejudices, moods and political or community influence of people. For example, when testing a friend, acquaintance, or high profile individual, an Examiner may give undeservedly high marks or, conversely the error of stereotype.

### **STEREOTYPE**

As with the error of leniency, the error of stereotype has its source in likes, dislikes, opinions, prejudices, etc. In this case, however, an Examiner may allow personal opinion or prejudice to influence the assessment of the applicant and award undeservedly low marks or high marks.

### **LOGICAL ERROR**

Logical error occurs when an Examiner assumes that a high degree of ability in one area means a similar degree of competence in another. This is especially true if the two items being assessed are similar or related. A good mark on one or two items does not mean the applicant is also qualified on all items. The full test must be completed and marked.

### **ERROR OF NARROW CRITERION**

This may occur when an Examiner has a group of applicants to test. The Examiner may, under this condition, rate each applicant against the others within the group instead of against the published criteria. If the group to be tested is above average, an applicant who is of average ability may be awarded an undeservedly low mark. If the group of applicants to be tested is below average, then an applicant who performs the best within this group may be awarded a higher assessment than actually deserved.

### **ERROR OF DELAYED GRADING**

This type of error occurs when there is a delay in the assessment of an item, resulting in a tendency to award average marks due to the lack of information and/or poor recall. The use of the top or bottom end of the marking scale would be avoided. By not making an assessment immediately after the event, Examiners may award assessments based upon an overall impression of the flight test. This results in an erroneous assessment and a flight test report that is of little value to the training system.

### **STANDARDS ERROR**

All the errors we have discussed result in a standards error. However, if an Examiner is not thoroughly familiar with established standards, as outlined in the applicable guidance material, it is virtually impossible to conduct an evaluation to that standard. While these errors may appear obvious on paper, they may not be under flight-test conditions, especially as the judgment of the Examiner may be obscured by a combination of two or more. Examiners must, therefore, be aware of these errors to consciously prevent them from influencing the validity of the tests they conduct.

## **2.11 Post flight - debrief**

Post flight procedures will require accurate assessment of the flight and communication to the applicant of his result. The examiner must:

- take the time necessary to consider a fair, unbiased and correct assessment of the test/check;
- deliver a clear decision on the result of the test/check with precise details of the reason;
- for each failed item indicating any fail result in a friendly but firm manner;
- where an existing rating has been failed instruct the applicant on the implications of his result; and
- direct the applicant in the administration required following his result.

Having completed the flight and the administration the examiner may then offer guidance on any aspect of the flight. The following points may be discussed:

- a. advise the applicant how to avoid or correct mistakes;
- b. mention any other points of criticism noted; and
- c. give any advice considered helpful.

## **2.12 Complaints and Appeals**

If at any time during or after the test a complaint of a serious nature is made by an applicant on the conduct of his test/check, the Examiner should not become involved in discussion with the applicant. Complaints or appeals will be dealt with according to CAA regulations.

## CHAPTER 3 – TEST STANDARDS

### AEROPLANE

The Tables in this Chapter give a practical guide to the criteria to be considered by the examiner when assessing each item of MCAR-AIRCREW aeroplane/helicopter tests and checks. The table should be used in conjunction with the appropriate MCAR-AIRCREW test schedule.

#### Introductory Notes

Using a reference system of 7 Phases of Flight the table describes the required competency standards for every item of tests or check listed in MCAR-AIRCREW.

The Phase of Flight headings are:

- 1 Pre-flight procedures
- 2 Take off and departure procedure
- 3 General Handling
- 4 Enroute procedures
- 5 Abnormal and Emergency procedures
- 6 Instrument procedures
- 7 Arrival and Landing procedures  
 (Night Operations applies to all phases of flight)

The table is separated into 7 items as follows:

- 1 PHASE OF FLIGHT;
- 2 Title of assessed item;
- 3 OBJECTIVE;
- 4 TECHNICAL;
- 5 PROCEDURAL;
- 6 NONTECHNICAL; and
- 7 General.

<b>PHASE OF FLIGHT</b>	
Title of assessed item taken from MCAR-AIRCREW schedule	
<b>OBJECTIVE</b>	This cell describes that which is to be determined by the examiner.
<b>TECHNICAL</b>	This cell describes competence criteria that involve the applicant demonstrating knowledge and skills in operating systems or controlling the aeroplane
<b>PROCEDURAL</b>	This cell describes competence criteria in complying with procedures, operating manuals, ATC clearances, published procedures and checklists.
<b>NONTECHNICAL</b>	This cell describes competence criteria encapsulated by Airmanship, CRM, decision making, awareness, threat and error management etc.
<b>General</b>	In most phases of flight there are competencies that apply to a group of manoeuvres e.g. turns, or even the whole phase. In order to avoid repetition, the common competencies are grouped under the 'General' item heading. Examiners must refer to both the 'General' heading criteria and the criteria under the specific item being assessed e.g. 'Turns General plus Steep Turns' as the specific item. Multiple cell borders at the beginning and end of the group identify the group.

**Note:** It is possible sometimes to place a competence in either of 2 columns because physical skills, knowledge etc. cannot always be clearly separated; for assessment this is not critical. The intention is to assist the examiner in identifying what competencies are required for satisfactory performance of a test item and to assist in identifying why an applicant may have failed to achieve a pass in an item.

**Airmanship.** Several of the test schedules require the assessment of Airmanship. In general and especially for SPA tests this word covers Non-technical areas of competency. Airmanship is the complex of all resources enabling the pilot safely to handle his aircraft with due regard to rules and regulations and good aviation practice, whatever the circumstances, both on the ground and in the air. It is not practical to give a comprehensive list of airmanship considerations, however, the Nontechnical column attempts to describe as many of these items as possible. Errors in this area should not constitute reason for failure unless satisfactory achievement of the Objective or the safety of the flight are compromised. It is the examiner’s role to observe how the applicant manages the resources available to him to achieve a safe and uneventful flight. If the applicant shows early and consistent awareness of particular airmanship considerations (e.g. repetitive checking of icing conditions in a level cruise clear of icing conditions) the examiner may allow the applicant to brief only changes during the remainder of the flight.

Examiners are required to exercise proper Airmanship/nontechnical competencies in conducting tests/checks as well as expecting the same from applicants.

<b>PRE-FLIGHT PROCEDURES</b>	
<b>Licences</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to licence and documents by explaining-
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Pilot licence privileges and limitations.</li> <li>• Medical certificate class and duration and how to renew it.</li> </ul> Pilot logbook or flight records.
<b>NONTECHNICAL</b>	

<b>Flight Documents</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to flight preparation, with regard to:
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Airworthiness and registration certificates.</li> <li>• Operating limitations, placards, and instrument markings.</li> <li>• Weight and balance data and equipment list.</li> <li>• Airworthiness directives, compliance records, maintenance requirements, and appropriate records.</li> <li>• NOTAMS</li> </ul>
<b>NONTECHNICAL</b>	

<b>Weather information</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the elements related to aviation weather information by obtaining, reading, and analysing the applicable items such as-
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Weather reports and forecasts.</li> <li>• Pilot and radar reports.</li> <li>• Surface analysis charts.</li> <li>• Radar summary charts.</li> <li>• Significant weather prognostics.</li> <li>• Winds and temperatures aloft.</li> <li>• Freezing level charts</li> <li>• Stability charts.</li> <li>• Severe weather outlook charts.</li> <li>• Tables and conversion graphs.</li> <li>• SIGMETs.</li> <li>• ATIS and VOLMET reports.</li> <li>• Correctly analyses the assembled weather information pertaining to the proposed route of flight and destination aerodrome, and determines whether an alternate aerodrome is required, and, if required, whether the selected alternate aerodrome meets the regulatory requirement.</li> <li>• Makes a competent “go/no-go” decision based on available weather information.</li> <li>• Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	

<b>PRE-FLIGHT PROCEDURES</b>	
<b>National Airspace System</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to the National Airspace System by explaining:
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Basic VFR Weather Minimums - for all classes of airspace.</li> <li>• Airspace classes – their boundaries and specifications IFR/VFR for the following :               <ul style="list-style-type: none"> <li>○ Class A.</li> <li>○ Class B.</li> <li>○ Class C.</li> <li>○ Class D.</li> <li>○ Class E.</li> <li>○ Class F.</li> <li>○ Class G.</li> </ul> </li> <li>• Special use airspace and other airspace areas.</li> </ul>
<b>NONTECHNICAL</b>	

<b>Preparation of Flight Plan</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the elements by presenting and explaining a pre-planned flight as previously assigned by the examiner (pre-planning at examiner's discretion). The Examiner must ensure that the Applicant:- <b>Note;</b> <i>The flight should be planned using marginal weather conditions and conform to the regulatory requirements for flight rules within the airspace in which the flight will be conducted.</i>
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Exhibits adequate knowledge of the aeroplane's performance capabilities by calculating the estimated time enroute and total fuel requirement based upon such factors as-               <ul style="list-style-type: none"> <li>○ Power settings.</li> <li>○ Operating altitude or flight level.</li> <li>○ Wind.</li> <li>○ Fuel reserve requirements.</li> </ul> </li> <li>• Selects and correctly interprets the current and applicable enroute charts, maps, SID (standard instrument departure), STAR (standard terminal arrival), and standard instrument approach procedure charts, as appropriate to the flight.</li> <li>• Obtains and correctly interprets applicable NOTAM information.</li> <li>• Determines the calculated performance is within the aeroplane's capability and operating limitations.</li> <li>• Completes and files a flight plan in a manner that accurately reflects the conditions of the proposed flight.</li> </ul>
<b>NONTECHNICAL</b>	

<b>Mass and Balance Calculation</b>	
<b>OBJECTIVE</b>	To determine that the applicant:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Computes the centre-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting mass.</li> <li>• Determines if the computed centre of gravity is within the forward and aft centre-of-gravity limits, and that lateral fuel balance is within limits for take-off and landing.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates good planning and knowledge of procedures in applying operational factors affecting aeroplane performance</li> </ul>
<b>NONTECHNICAL</b>	

<b>PRE-FLIGHT PROCEDURES</b>	
<b>Performance Calculation</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of performance and limitations, including:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• A thorough knowledge of the adverse effects of exceeding any limitation.</li> <li>• Proficient use of (as appropriate to the aeroplane) performance charts, tables, graphs, or other data relating to items such as: <ul style="list-style-type: none"> <li>○ Accelerate-stop distance.</li> <li>○ Accelerate-go distance.</li> <li>○ Take-off performance-all engines, engine(s) inoperative.</li> <li>○ Climb performance including segmented climb performance; with all engines operating-with one or more engine(s) inoperative, and with other engine malfunctions as may be appropriate.</li> <li>○ Service ceiling-all engines, engine(s) inoperative(s), including drift down, if appropriate.</li> <li>○ Cruise performance.</li> <li>○ Fuel consumption, range, and endurance.</li> <li>○ Descent performance.</li> <li>○ Go-around from rejected landings.</li> <li>○ Operational factors affecting aeroplane performance.</li> <li>○ Other performance data appropriate to the test aeroplane.</li> </ul> </li> <li>• Describing (as appropriate to the aeroplane) the airspeeds used during specific phases of flight.</li> <li>• Describing the effects of meteorological conditions upon performance characteristics and correctly applies these factors to a specific chart, table, graph or other performance data.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	
<b>Theoretical Knowledge</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge appropriate to the aeroplane; its systems and components; its normal, abnormal, and emergency procedures; and uses the correct terminology with regard to the following items: <b>Note:</b> Applicants must exhibit adequate knowledge of the contents of the Pilot's Operating Handbook or AFM with regard to the systems and components listed; the Minimum Equipment List (MEL), if appropriate; and the Operations Specifications, if applicable
<b>TECHNICAL</b>	<p>The examiner is expected to question the applicant on a selection from the following list.</p> <ul style="list-style-type: none"> <li>• Landing gear-indicators, brakes, antiskid, tyres, nose-wheel steering, and shock absorbers.</li> <li>• Engine-controls and indications, induction system, carburettor and fuel injection, turbocharging, cooling, fire detection/protection, mounting points, turbine wheels, compressors, and de-icing, anti-icing, and other related components.</li> <li>• Propellers-type, controls, feathering/unfeathering, auto-feather, negative torque sensing, synchronising, and synchrophasing.</li> <li>• Fuel system-capacity; drains; pumps; controls; indicators; cross-feeding; transferring; jettison; fuel grade, colour and additives; fuelling and defueling procedures; and substitutions, if applicable.</li> <li>• Oil system-capacity, grade, quantities, and indicators.</li> <li>• Hydraulic system-capacity, pumps, pressure, reservoirs, grade, and regulators.</li> <li>• Electrical system-alternators, generators, battery, circuit breakers and protection devices, controls, indicators, and external and auxiliary power sources and ratings.</li> <li>• Environmental systems heating, cooling, ventilation, oxygen and pressurisation, controls, indicators, and regulating devices.</li> <li>• Avionics and communications-autopilot; flight director; Electronic Flight Indicating Systems (EFIS); Flight Management System(s) (FMS); Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; emergency locator transmitter, TCAS, EGPWS.</li> <li>• Ice protection-anti-ice, de-ice, pitot-static system protection, propeller, windshield, wing and tail surfaces.</li> <li>• Crewmember and passenger equipment-oxygen system, survival gear, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers and passengers.</li> <li>• Flight controls-ailerons, elevator(s), rudder(s), winglets, control tabs, balance tabs, stabiliser, flaps, spoilers, and leading edge flaps/slats and trim systems.</li> <li>• Pitot-static system with associated instruments and the power source for the flight instruments..</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	

<b>PRE-FLIGHT PROCEDURES</b>	
<b>Inspection of Aeroplane and Equipment</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the following elements: <b>NOTE:</b> <i>If a flight engineer is a required crewmember for a particular type aeroplane, the actual visual inspection may be waived. The actual visual inspection may be replaced by using an approved pictorial means that realistically portrays the location and detail of inspection items. On aeroplanes requiring a flight engineer, an applicant must demonstrate adequate knowledge of the flight engineer functions for the safe completion of the flight if the flight engineer becomes ill or incapacitated during a flight.</i>
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Required instruments and equipment for day VFR.(night if applicable)</li> <li>• Procedures and limitations for operating the aeroplane with inoperative instruments.</li> <li>• Exhibits adequate knowledge of the pre-flight inspection procedures including: <ul style="list-style-type: none"> <li>○ The purpose of inspecting the items which must be checked</li> <li>○ How to detect possible defects.</li> <li>○ The corrective action to take.</li> <li>○ Process for obtaining an MEL to include a letter of authorisation.</li> <li>○ When a special flight permit would be required.</li> <li>○ Procedures for obtaining a special flight permit.</li> </ul> </li> <li>• Exhibits adequate knowledge of the operational status of the aeroplane by locating and explaining the significance and importance of related documents such as: <ul style="list-style-type: none"> <li>○ Airworthiness and registration certificates.</li> <li>○ Operating limitations, handbooks, and manuals.</li> <li>○ Mass and balance data.</li> <li>○ Maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot</li> </ul> </li> <li>• Uses the checklist to inspect the aeroplane externally and internally.</li> <li>• Verifies the aeroplane is safe for flight by emphasising (as appropriate) the need to look at and explain the purpose of inspecting items such as: <ul style="list-style-type: none"> <li>○ Engine, including controls and indicators.</li> <li>○ Fuel quantity, grade, type, contamination safeguards, and servicing procedures.</li> <li>○ Oil quantity, grade, and type.</li> <li>○ Hydraulic fluid quantity, grade, type, and servicing procedures.</li> <li>○ Oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers.</li> <li>○ Hull, landing gear, float devices, brakes, and steering system.</li> <li>○ Tires for condition, inflation, and correct mounting, where applicable.</li> <li>○ Fire protection/detection systems for proper operation, servicing, pressures, and discharge indications.</li> <li>○ Pneumatic system pressures and servicing.</li> <li>○ Ground environmental systems for proper servicing and operation.</li> <li>○ (Reserved)</li> <li>○ Flight control systems including trim, spoilers, and leading/trailing edge.</li> <li>○ Anti-ice, de-ice systems, servicing, and operation.</li> <li>○ Location and check of loose emergency equipment.</li> </ul> </li> <li>• Co-ordinates with ground crew and ensures adequate clearance prior to moving any devices such as door, hatches, and flight control surfaces.</li> <li>• Complies with the provisions of the appropriate Operations Specifications, if applicable, as they pertain to the particular aeroplane and operation.</li> <li>• Demonstrates proper operation of all applicable aeroplane systems.</li> <li>• Notes any discrepancies, determines if the aeroplane is airworthy and safe for flight, or takes the proper corrective action.</li> <li>• Checks the general area around the aeroplane for hazards to the safety of the aeroplane and personnel.</li> <li>• Makes a correct passenger and departure briefing</li> <li>• Performs all items up to start procedures by systematically following the check list items.</li> </ul>
<b>NONTECHNICAL</b>	



<b>PRE-FLIGHT PROCEDURES</b>	
<b>Engine starting</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the correct engine start procedures including:
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Use of an auxiliary power unit (APU) or external power source (GPU and/or ASU).</li> <li>• Starting under various atmospheric conditions, normal and abnormal starting limitations, and the proper action required in the event of a malfunction.</li> <li>• Ensuring the ground safety procedures are followed during the before-start, start, and after-start phases.</li> <li>• Ensuring the use of appropriate ground crew personnel during the start procedures.</li> <li>• All items of the start procedures by systematically following the approved briefing/checklist items for the before-start, start, and after-start phases.</li> <li>• Demonstrates sound judgement and operating practices in those instances where specific instructions or briefing/checklist items are not published.</li> <li>• Completes the appropriate briefing/checklist.</li> </ul>
<b>NONTECHNICAL</b>	
<b>Taxiing</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of safe taxi procedures:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates proficiency by maintaining correct and positive aeroplane control.</li> <li>• Maintains proper spacing on other aeroplane, obstructions, and persons.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Exhibits adequate knowledge of safe taxi procedures (as appropriate to the aeroplane including push-back or power-back, as may be applicable).</li> <li>• Accomplishes the applicable briefing/checklist items and performs recommended procedures.</li> <li>• Complies with instructions issued by ATC (or the examiner simulating ATC).</li> <li>• Observes runway hold lines, localizer and glide slope critical areas, beacons, and other surface control markings and lighting.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains constant vigilance and lookout during taxi operation.</li> <li>• Demonstrates correct crew co-ordination (MPA)</li> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Obtains appropriate clearance before crossing/entering active runways.</li> </ul>
<b>Before Take-off</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the pre-take-off procedures and actions:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Ensures that all systems are within their normal operating range prior to beginning, during the performance of, and at the completion of those checks required by the approved checklist.</li> <li>• Ensures that the aeroplane is correctly configured for take-off</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Exhibits adequate knowledge of the pre-take-off checks by stating the reason for checking the items outlined on the checklist and explaining how to detect possible malfunctions.</li> <li>• Explains, as may be requested by the examiner, any normal or abnormal system-operating characteristic or limitation and the corrective action for a specific malfunction.</li> <li>• Determines the aeroplane's take-off performance, considering such factors as wind, density altitude, weight, temperature, pressure altitude, and runway condition and length.</li> <li>• Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Determines if the aeroplane is safe for the proposed flight or requires maintenance.</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Ensures or confirms that passengers, crew etc. are correctly secured for take-off.</li> <li>• Obtains appropriate take-off clearance using standard R/T phraseology</li> <li>• Notes any surface conditions, obstructions or other hazards that might hinder a safe take-off.</li> </ul>

<b>TAKE – OFF AND DEPARTURE PROCEDURES (Take-off)</b>	
<b>Take-off (General)</b>	
<b>OBJECTIVE</b>	To determine the Applicant exhibits adequate knowledge of normal take-offs and climbs including (as appropriate to the aeroplane) airspeeds, configurations, and emergency/ abnormal procedures.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Aligns the aeroplane on the runway centreline.</li> <li>• Applies the controls correctly to maintain longitudinal alignment on the centreline of the runway prior to initiating and during the take-off.</li> <li>• Correctly sets take-off power.</li> <li>• Adjusts the controls to attain the desired pitch attitude at the predetermined airspeed to obtain the desired performance.</li> <li>• Maintains the appropriate climb attitude.</li> <li>• Performs or calls for and verifies the accomplishment of gear and flap retractions, power adjustments, and other required pilot related activities at the required airspeeds within the tolerances established in the Pilot’s Operating Handbook or AFM.</li> <li>• Adjusts the engine controls as recommended by the approved guidance for the existing conditions.</li> <li>• Achieves the appropriate airspeeds and climb segment airspeeds.</li> <li>• Maintains desired heading.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Verifies and correctly applies correction for the existing wind component to the take-off performance.</li> <li>• Completes required checks prior to starting take-off to verify the expected engine performance. Performs all required pre-take-off checks.</li> <li>• Monitors engine controls, settings, and instruments during take-off to ensure all predetermined parameters are maintained.</li> <li>• Uses the applicable noise abatement and wake turbulence avoidance procedures, as required.</li> <li>• Completes the appropriate briefing and checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Correct crew co-ordination as required by type of operation (MPA)</li> <li>• Correctly assesses aeroplane acceleration during take-off.</li> <li>• Correctly assesses take-off and climb hazards particularly those related to obstacles.</li> </ul>

<b>Instrument Take-off-see Take-off (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of an instrument take-off with instrument meteorological conditions simulated at or before reaching an altitude of 100 feet (30 meters) AGL:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Sets the applicable radios/flight instruments to the desired setting prior to initiating the take-off.</li> <li>• Transitions smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Accomplishes the appropriate briefing/checklist items to ensure that the aeroplane systems applicable to the instrument take-off are operating properly.</li> <li>• Complies with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Takes into account, prior to beginning the take-off, operational factors which could affect the manoeuvre such as Take-off Warning Inhibit Systems or other aeroplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.</li> </ul>

<b>TAKE – OFF AND DEPARTURE PROCEDURES (Take-off)</b>	
<b>Crosswind Take-off-see Take-off (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of crosswind take-off and climb techniques: <b>NOTE:</b> <i>If no crosswind condition exists, the use of proper techniques may be orally checked.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Sets correct configuration for cross wind take-off and makes suitable adjustments to airspeed as required.</li> <li>• Applies the controls correctly for the cross wind condition, to maintain longitudinal alignment on the centreline of the runway prior to initiating and during the take-off.</li> <li>• Transitions smoothly and accurately from the runway, into balanced, climbing flight maintaining the runway centreline.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Ensures operation of the aircraft within the airframe limitations as determined by the Pilots' Operating Handbook / AFM and Operations Manual, as appropriate</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Correctly assesses the cross wind component</li> </ul>

<b>Short field Operations-see Take-off (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of short-field take-off and initial climb:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Sets correct configuration for short field take-off and makes suitable adjustments to airspeed as required.</li> <li>• Taxies into the take-off position so as to allow maximum utilisation of available take-off area and aligns the aeroplane on the runway centreline.</li> <li>• Rotates at the recommended airspeed, lifts off and accelerates to the recommended obstacle clearance airspeed or VX.</li> <li>• Establishes the pitch attitude for the recommended obstacle clearance airspeed, or VX and maintains that airspeed until the obstacle is cleared, or until the aeroplane is 50 feet (20 meters) above the surface whichever is greater.</li> <li>• After clearing the obstacle, accelerates to and maintains best rate of climb airspeed or Vy, Maintains take-off power to a safe manoeuvring altitude.</li> <li>• Maintains directional control and proper wind-drift correction throughout the take-off and climb.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Determines maximum performance, configuration, power and airspeeds in accordance with Operations Manual or AFM.</li> </ul>
<b>NONTECHNICAL</b>	

<b>Take-off at Maximum Mass-see Take-off (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements of take-off and climb at maximum take-off mass:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Sets correct configuration for maximum mass take-off and makes suitable adjustments to airspeed as required.</li> <li>• Positions and aligns the aeroplane for maximum utilisation of available take-off area.</li> <li>• Establishes the pitch attitude for the recommended obstacle clearance airspeed, or VX and maintains that airspeed until the obstacle is cleared, or until the aeroplane is 50 feet (20 meters) above the surface.</li> <li>• Establishes correct obstacle clearance track during climb.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Determines maximum performance, configuration, power and airspeeds in accordance with Operations Manual or AFM.</li> </ul>
<b>NONTECHNICAL</b>	

<b>TAKE-OFF AND DEPARTURE PROCEDURES (Aerodrome Departure)</b>	
<b>ATC Clearances</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the elements related to ATC clearances & pilot/controller responsibilities to include tower en-route control and clearance <b>NOTE:</b> <i>The ATC clearance may be an actual or simulated ATC clearance based upon the flight plan.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Sets the appropriate communication and navigation frequencies and transponder codes in compliance with the ATC clearance.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Determines that it is possible to comply with ATC clearance</li> <li>• Uses standard phraseology when reading back clearance.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Copies correctly, in a timely manner, the ATC clearance as issued.</li> <li>• Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.</li> <li>• Reads back correctly, in a timely manner, the ATC clearance in the sequence received.</li> </ul>

<b>IFR/VFR Departures</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of VFR or IFR departure procedures:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes correct use of Instruments, flight director, autopilot, navigation equipment and communication equipment appropriate to the performance of the procedure.</li> <li>• Intercepts, in a timely manner, all courses, radials, and bearings (QDM/QDR's) appropriate to the procedure, route, ATC clearance, or as directed by the examiner.</li> <li>• Maintains the appropriate airspeed, altitude, headings.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Uses the current and appropriate navigation publications for the proposed flight.</li> <li>• Performs the aeroplane briefing/checklist items appropriate to the departure.</li> <li>• Establishes communications with ATC, using proper phraseology.</li> <li>• Complies, in a timely manner, with all ATC clearances, instructions, and restrictions.</li> <li>• Exhibits adequate knowledge of two-way communications failure procedures.</li> <li>• Adheres to airspeed restrictions and adjustments required by regulations, ATC, the Pilot's Operating Handbook, the AFM, and the examiner.</li> <li>• Complies with the provisions of the climb profile, SID, and other departure procedures, as appropriate.</li> <li>• Performs correct altimetry procedures, in accordance with the regulations, operational procedures and ATC requirements.</li> <li>• Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.</li> <li>• Demonstrates terrain awareness, orientation, division of attention, and proper planning.</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Liaises with other crewmembers for correct operation of the aircraft systems during departure. (MPA)</li> <li>• Demonstrates orientation, division of attention, and proper planning.</li> <li>• In VMC, demonstrates adequate lookout and traffic avoidance.</li> </ul>

<b>GENERAL HANDLING OR MANOEUVRES</b>	
<b>Normal Operation of All Systems</b>	
<b>OBJECTIVE</b>	To determine that the applicant possesses adequate knowledge of the normal and abnormal procedures of the systems, subsystems, and devices relative to the aeroplane type (as may be determined by the examiner)
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates the proper use of the aeroplane systems, subsystems, and devices (as may be determined by the examiner) appropriate to the aeroplane.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes the appropriate checklist</li> <li>• Follow correct procedures for controlling the aircraft with or without automatic flight control systems, in accordance with the Aircraft / Systems Manual and Operations manual, as appropriate</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Liaise with other crewmembers for correct operation of the aircraft systems.</li> </ul>

<b>Aeroplane control (General)</b>	
<b>OBJECTIVE</b>	To determine that the Applicant exhibits safe control of the aeroplane throughout the flight and any manoeuvres required by the examiner: <b>Note:</b> <i>Where MCAR FCL requires Instrument flight to be demonstrated, Simulated IMC conditions must be generated by a means acceptable to the CAA and the Examiner. This method is to be agreed with the applicant, before flight.</i>
<b>TECHNICAL</b>	Exhibits safe control of the aeroplane by observing: <ul style="list-style-type: none"> <li>• Magnitude of control input</li> <li>• Smoothness of control, within the limitations of the airframe and control systems.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates correct use of cockpit check lists</li> <li>• Demonstrates management and monitoring of engine(s) and other aeroplane systems.</li> <li>• Follows correct procedures for controlling the aircraft with automatic flight control systems, in accordance with the Pilots' Operating Handbook / AFM and Operations manual, as appropriate.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains adequate lookout, before, during and after execution of any manoeuvre by visual references.</li> <li>• Demonstrates correct crew co-ordination as required by type of operation (MPA).</li> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Demonstrates orientation throughout the manoeuvres.</li> <li>• Ensures that correct crew and passenger briefings are completed.</li> </ul>

<b>Turns (General)</b>	
<b>OBJECTIVE</b>	To determine that the Applicant exhibits safe control of the aeroplane by reference to visual attitudes (and by instruments where appropriate to the flight) and is able to;
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Transition to the turning attitude, using proper instrument crosschecks and coordinated control application.</li> <li>• Turn onto specific visual references and headings by visual references (and solely by reference to instruments where appropriate to the flight).</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Follow correct procedures for the controlling the aircraft with/without automatic flight control systems, in accordance with the Aircraft / Systems Manual and Operations manual, as appropriate</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintain adequate lookout, before, during and after turning by visual references.</li> <li>• Demonstrate orientation throughout the manoeuvre</li> <li>• Liaise with other crew members for lookout (MPA)</li> <li>• Follow appropriate SOP for the confirmation of intended heading (MPA).</li> </ul>

<b>GENERAL HANDLING OR MANOEUVRES</b>	
<b>Medium Turns (30° bank)</b> see Aeroplane Control (General) and Turns (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits safe control of the aircraft during level, constant airspeed, medium (30° bank) turns and;
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Establishes the configuration specified by the examiner.</li> <li>Maintains the assigned altitude and airspeed throughout the turn</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	
<b>Steep Turns (45° bank or More)</b> see Aeroplane Control (General) and Turns (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of steep turns (if applicable to the aeroplane) and the factors associated with performance, wing loading, angle of bank, stall speed, pitch, power requirements, and over-banking tendencies:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Selects a safe height as recommended by the manufacturer, training syllabus, or other training directive, or as agreed with the Examiner.</li> <li>Establishes the recommended entry airspeed, in straight and level flight.</li> <li>Rolls into a coordinated turn of 360° with a bank angle of not less than 45°. Maintains the bank angle in a stable, balanced turn.</li> <li>Applies smooth coordinated pitch, bank, and power adjustments to maintain the specified altitude, attitude and airspeed.</li> <li>Avoids any indication of an approaching stall, abnormal flight attitude, or exceeding any structural or operating limitation during any part of the manoeuvre.</li> <li>Rolls out of the turn, stabilises the aeroplane in straight-and level flight or, at the discretion of the examiner, reverses the direction of turn and repeats the manoeuvre in the opposite direction.</li> <li>Recovers accurately onto the desired heading and at the desired airspeed for straight and level flight.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	
<b>Aeroplane Specific Handling Including Critical Mach No., Buffet and Tuck Under.</b> see Aeroplane Control (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of, and recognises, the elements related to Tuck under and Mach buffets, after reaching the critical Mach number, and other specific flight characteristics of the aeroplane (e.g. Dutch Roll): <i>Note: an aeroplane may not be used for this exercise</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Establishes the recommended configuration and airspeed/Mach, and maintain that airspeed/Mach</li> <li>Uses proper technique to enter into, operate within, and recover from, specific flight situations.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	
<b>Straight and level flight at constant speed and with speed changes</b> see Aeroplane Control (General)	
<b>OBJECTIVE</b>	Objective. To determine that the Applicant exhibits safe control of the aircraft, by reference to visual attitudes (and by instruments where appropriate) in balanced, straight and level flight:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Maintains altitude, heading and balance, by visual references (and solely by reference to instruments, if applicable to flight) using correct instrument confirmation, and coordinated control application.</li> <li>Maintains altitude, heading and balance, whilst accelerating / decelerating to specific speeds, as determined by the Aircraft Flight, Operations or Training manual, or as specified by the Examiner.</li> <li>Maintains altitude, heading and balance, at different airspeeds, power settings and configurations as determined by the Aircraft Flight / Operations or Training manuals or as specified by the Examiner.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	

<b>GENERAL HANDLING OR MANOEUVRES</b>	
<b>Climbs (General)-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to climbing at different speeds and configurations, by visual references (and solely by reference to instruments, if applicable to flight) throughout all operational levels of the aeroplane:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Transitions to the climb power setting and pitch attitude, on an assigned heading, using proper instrument crosschecks and interpretation, and coordinated control application.</li> <li>• Demonstrates climbing at correct airspeed, to specific altitudes / levels, in straight flight, and whilst turning onto specific headings.</li> <li>• Levels off at the assigned altitude or level and establishes straight and level cruise.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Applies correct altimeter setting procedures as appropriate to the level change required.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Uses correct RT phraseology for level change requests and instructions from ATC</li> <li>• Follows appropriate procedure for the confirmation of intended level (MPA)</li> </ul>

<b>Climbing at Vy-see Aeroplane Control (General) and Climbs (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the performance elements relevant to climbing the best rate of climb in accordance with the Pilots' Operating Handbook / AFM:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes best rate of climb speed and configuration, specified in the Pilots' Operating Handbook / AFM.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates knowledge of climb performance and procedures.</li> </ul>
<b>NONTECHNICAL</b>	

<b>Climbing at Vx-see Aeroplane Control (General) and Climbs (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the performance elements relevant to climbing at the best angle of climb (obstacle clearance climb) in accordance with the Pilots' Operating Handbook / AFM:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes best angle of climb speed and configuration, specified in the Pilots' Operating Handbook / AFM.</li> <li>• Turns onto specified headings whilst preserving the best angle of climb.</li> <li>• Transitions to climbing flight at best rate or other configuration, as determined by the examiner.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates knowledge of obstacle clearance climb requirements</li> </ul>
<b>NONTECHNICAL</b>	

<b>Flight at Critically High Airspeed-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to critically high airspeeds.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recognises the critical high airspeed.</li> <li>• Establishes the recommended configuration and airspeed, and maintains that airspeed</li> <li>• Controls aeroplane smoothly within aeroplane limitations.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Follows the appropriate action in accordance with the flight manual</li> </ul>
<b>NONTECHNICAL</b>	

<b>GENERAL HANDLING OR MANOEUVRES</b>	
<b>Flight at Critically Low Airspeed-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	Objective. To determine that the applicant exhibits knowledge of the elements related to critically low airspeed.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recognises the critical low airspeed.</li> <li>• Establishes the recommended configuration and airspeed, and maintains that airspeed and desired heading</li> <li>• Controls aeroplane smoothly within aeroplane limitations.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• action in accordance with the flight manual</li> </ul>
<b>NONTECHNICAL</b>	

<b>Stalling General-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the factors which influence stall characteristics, including the use of various drag configurations, power settings, pitch attitudes, mass, and bank angles. Also, exhibits adequate knowledge of the proper procedure for resuming normal flight:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Slowly establishes the pitch attitude (using trim or elevator/stabiliser), bank angle, and power setting that will induce stall at the desired target airspeed. Trim must not be used at less than 1.3 of Vs</li> <li>• Recognizes and announces the first indication of a stall appropriate to the specific aeroplane design and initiates recovery as directed by the examiner.</li> <li>• Recovers to a reference airspeed, altitude and heading, allowing only the acceptable altitude or airspeed loss, and heading deviation using manufacturers recommended technique.</li> <li>• Demonstrates smooth, positive control during entry, approach to a stall, and recovery.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Selects an entry altitude in accordance with safety requirements. When accomplished in an FTD or flight simulator, the entry altitude may be at low, intermediate, or high altitude as appropriate for the aeroplane and the configuration, at the discretion of the examiner</li> <li>• Completes appropriate before stalling checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Ensures the aeroplane is in a safe area and clear of hazards prior to accomplishing an approach to a stall.</li> </ul>

<b>Full Stall &amp; Recovery in the Clean Configuration</b> see Aeroplane Control (General) and Stalling (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the full stall and recovery with entry from level flight with gear and flaps retracted:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains level flight and desired heading on entry.</li> <li>• Recovers at the first sign of the full stall or as directed by examiner.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	

<b>Approach to Stall &amp; Recovery in Different Configurations</b> see Aeroplane Control (General) and Stalling (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to manoeuvring during slow flight and approaching a stall in various configurations:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Configures the aeroplane as required by the examiner, from level flight, or descending as if on an approach path.</li> <li>• Recovers at the first indication of an impending stall as appropriate to aeroplane design, and initiates recovery or as directed by the examiner.</li> <li>• Retracts gear and flaps as appropriate.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Selects an entry altitude in accordance with AFM or POH.</li> <li>• Completes the appropriate briefing/checklist including go-around or after take-off checks.</li> </ul>
<b>NONTECHNICAL</b>	



<b>GENERAL HANDLING OR MANOEUVRES</b>	
<b>Descent With and Without Power-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to visual attitude/instrument flying during straight, constant airspeed and constant rate descents:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes the descent configuration</li> <li>• Transitions to the descent pitch attitude and power setting on an assigned heading using proper instrument crosscheck and interpretation, and coordinated control application.</li> <li>• Level off at the assigned altitude with correct co-ordination of power, attitude and balance.</li> <li>• Achieves straight and level flight at the assigned altitude, at the correct speed, heading and in trim.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Apply correct changes to altimeter settings as appropriate to the level change required.</li> <li>• Use correct RT phraseology for level change requests and instructions from ATC.</li> </ul>
<b>NONTECHNICAL</b>	

<b>Recovery from Unusual Attitudes (visual and instrument flying)</b> see Aeroplane Control (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to attitude flying during recovery from unusual attitudes. <b>Note:</b> <i>includes recovery from spiral dive.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recovers promptly to a stabilised level flight attitude using smooth, coordinated control application in the correct sequence using visual attitude flying or instruments as required.</li> <li>• Avoids exceeding airframe limitations.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates orientation, division of attention, and proper planning.</li> <li>• Recognises unusual flight attitudes.</li> </ul>

<b>Limited Panel Instrument Flying-see Aeroplane Control (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to attitude instrument flying with limited panel during straight-and-level flight, straight, constant airspeed climbs, straight constant airspeed descents, turns to headings and unusual attitudes solely by reference to the basic flight instruments to simulate a system failure, a failure of the vacuum- and gyro-powered instruments (e.g. the attitude and heading indicators ) using proper instrument crosscheck and interpretation, and co-ordinated control application
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Does not exceed airframe limitations.</li> <li>• Turns using no more than rate 1.</li> <li>• When making small heading corrections with the magnetic compass — as when tracking a VOR radial or localizer — use timed turns</li> <li>• Does not chase instrument indications or is not over controlling</li> <li>• Maintains a proper instrument scan.</li> <li>• Maintains heading altitude and airspeed within the prescribed limits</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Turns on the pitot heat well before flying in cloud or visible precipitation no matter what the temperature.</li> <li>• Opens a dedicated alternate source of static air for the aeroplane's pitot-static instruments.</li> <li>• Completes the appropriate checklist.</li> <li>• Use correct R/T procedures with ATC.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates orientation, division of attention, and proper planning.</li> </ul>

<b>EN-ROUTE PROCEDURES</b>	
<b>Flight Planning</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of flight planning by planning a VFR navigation flight as assigned by the examiner. The flight will be planned using latest forecast/actual weather.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Plots a course for the intended route of flight.</li> <li>• Identifies airspace, obstructions, and terrain features.</li> <li>• Selects easily identifiable en-route checkpoints.</li> <li>• Selects the most favourable altitudes.</li> <li>• Computes headings, flight time, and fuel requirements.</li> <li>• Selects appropriate navigation systems/facilities and communication frequencies.</li> <li>• Confirms availability of alternate aerodromes.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Uses appropriate current aeronautical charts.</li> <li>• Extracts and records pertinent information from NOTAM'S, the Aerodrome/Facility Directory, and other flight publications.</li> <li>• Completes a navigation log and files a VFR flight plan.</li> </ul>
<b>NONTECHNICAL</b>	

<b>VFR Navigation</b> (Dead reckoning, Map reading and Orientation.)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related VFR navigation.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Follows the pre-planned track solely by reference to landmarks.</li> <li>• Identifies landmarks by relating surface features to chart symbols.</li> <li>• Navigates by means of pre-computed headings, groundspeeds, and elapsed time.</li> <li>• Verifies the aeroplane's position in relation to the flight-planned route.</li> <li>• Correctly assesses track error and makes suitable adjustments to heading.</li> <li>• Arrives at the en-route checkpoints and destination at the revised ETA.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Corrects for and records the differences between pre-flight fuel, groundspeed, and heading and time calculations and those determined en-route.</li> <li>• Completes all appropriate checklists.</li> <li>• Uses correct altimetry procedures.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Demonstrates orientation, division of attention, and proper planning</li> <li>• Maintains adequate lookout for other air traffic.</li> </ul>

<b>Navigation Systems &amp; Radar Services</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to navigation systems and radar services.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Locates the aeroplane's position using radials, bearing (QDM/QDR's), DME range or co-ordinates, as appropriate.</li> <li>• Intercepts and tracks a given radial or bearing (QDM/QDR), if appropriate.</li> <li>• Recognises and describes the indication of station passage, if appropriate.</li> <li>• Recognises signal loss and takes appropriate action.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Selects, identifies and checks the appropriate navigation system/facility.</li> <li>• Uses proper communication procedures when utilising ATC radar services</li> <li>• Completes all appropriate checklists</li> <li>• Uses the appropriate level of service for phase of flight</li> </ul>
<b>NONTECHNICAL</b>	

<b>EN-ROUTE PROCEDURES</b>	
<b>Lookout &amp; Collision Avoidance</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits collision avoidance by adequate lookout. In IMC makes suitable use of radar services or other sources of traffic information to avoid collision.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Uses proper visual scanning technique.</li> <li>• Understands relationship between poor visual scanning habits and increased collision risk.</li> <li>• Uses TCAS or other collision avoidance equipment if fitted.</li> <li>• Takes appropriate avoiding action if required.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Correctly divides attention inside and outside the cockpit.</li> <li>• Correctly shares lookout and collision avoidance task with other crew members</li> <li>• Uses correct R/T procedure for collision avoidance.</li> <li>• Uses correct TCAS procedure where appropriate.</li> <li>• Requests correct level of radar service appropriate to flight conditions.</li> <li>• Avoids situations that involve the greatest collision risk.</li> </ul>

<b>Maintenance of Altitude, Heading &amp; Speed</b>	
<b>OBJECTIVE</b>	To determine that the applicant is able to fly accurately while carrying out other activities such as navigation.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains straight-and-level flight by visual attitude flying (or solely by reference to instruments in IMC) using proper instrument crosscheck and interpretation, and co-ordinated control application.</li> <li>• Maintains the applicable airspeed, headings and altitude</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes checklist items</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates correct crew co-ordination</li> </ul>

<b>Altimeter Setting</b>	
<b>OBJECTIVE</b>	To determine that the applicant applies correct altimeter setting procedures:
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Applies correct altimeter sub scale settings for each stage of flight</li> <li>• Carries out altimeter checks and altitude call-out in accordance with Operations Manual.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates correct crew co-ordination as required by type of operation (MPA)</li> </ul>

<b>Timing &amp; Revision of ETA's</b>	
<b>OBJECTIVE</b>	<i>To determine that the applicant correctly assesses and adjusts timing (ETA)</i> <b>Note:</b> also see VFR Navigation
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Ensures arrival at navigation point at ETA <math>\pm</math> 3 minutes.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Monitors flight progress and uses flight plan to give estimated time of arrival (ETA) at navigation points.</li> <li>• Revises ETA when appropriate.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>•</li> </ul>

<b>Monitoring of Flight Progress</b> Flight Log, Fuel Usage, Instrument Monitoring	
<b>OBJECTIVE</b>	To determine that the applicant can maintain good cockpit management, monitor the flight and keep suitable records.
<b>TECHNICAL</b>	
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Maintains a flight log of Clearances, position fixes, times, ETAs, fuel states, and information as required by Operating Procedures, such that the flight may be reconstructed from the log after landing.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Manages cockpit duties in an efficient manner.</li> <li>• Ensures correct division of crew duties.(MPA)</li> <li>• Monitors fuel usage.</li> <li>• Monitors aircraft systems and instruments.</li> </ul>

<b>EN-ROUTE PROCEDURES</b>	
<b>Observation of Weather Conditions</b>	
<b>OBJECTIVE</b>	To determine that the applicant is able to assess weather conditions, decide whether flight may continue in accordance with VFR, or plan and execute alternative action.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Exhibits adequate knowledge of the elements of observation of weather conditions and obtaining pre-flight weather briefings and in-flight weather information.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>Complies with Operations Manual or aircraft manual weather limitations.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>Exhibits adequate assessment when VFR flight is proposed and sky conditions or visibilities are present, or forecast, that would make flight under VFR doubtful.</li> <li>Exhibits adequate assessment of winds aloft.</li> <li>Exhibits adequate assessment of current and reported weather conditions.</li> <li>Makes satisfactory GO/NO GO or in-flight decisions based on correct assessment of weather conditions.</li> <li>Plans and correctly executes weather avoidance when necessary in-flight.</li> </ul>

<b>Diversion to Alternate Destination/Aerodrome</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of planning and executing a diversion from pre-planned track to an alternative destination/aerodrome <b>Note:</b> <i>Diversion to a new destination is normally initiated by the examiner</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Maintains the applicable airspeed, headings and altitude</li> <li>Exhibits adequate navigational skill to reach destination within time limit.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>Completes the appropriate checklist.</li> <li>Obtains appropriate ATC service.</li> <li>Completes flight log.</li> <li>Complies with Operations Manual procedures.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>Selects an appropriate alternate aerodrome if necessary.</li> <li>Plans a suitable route to the new destination.</li> <li>Diverts promptly toward the new destination</li> <li>Makes an accurate estimate of heading, groundspeed, arrival time, and fuel consumption to the alternate aerodrome/destination</li> </ul>

<b>Intercepting &amp; Tracking Radio Navigation Aids (VOR, NDB, DME)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the use of Radio Navigation aids, and is able to intercept and maintain specified bearings or radials or tracks.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>Intercepts and tracks a specific bearing/radial (QDM/QDR) to or from the NDB facility, using appropriate interception procedures.</li> <li>Intercepts and tracks a specific DME arc if required, using appropriate interception procedures.</li> <li>Maintains, while intercepting and tracking, the applicable airspeed, headings and altitude.</li> <li>Applies proper correction for wind to maintain track.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>Correctly tunes and identifies the facility.</li> <li>Correctly sets cockpit displays (HSI, RMI etc.)</li> <li>Correctly monitors the facility for failure (failure flags, coding etc. as appropriate)</li> <li>Recognises facility failure, and, when required, reports the failure to ATC.</li> <li>Determines accurately the relative bearing (QDM/QDR) of the VOR/ NDB facility.</li> <li>Determines the aircraft position relative to the facility.</li> <li>Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>Correctly utilises crew to operate equipment and identify navigational aids (MPA).</li> </ul>

<b>EN-ROUTE PROCEDURES</b>	
<b>Ice Protection Procedures</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to ice protection equipment and procedures.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Inspects all surfaces of the aeroplane with emphasis on ice.</li> <li>• Clears all surfaces of ice before flight</li> <li>• Operates anti/de-icing equipment correctly.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Taxies and accomplishes the before take-off check adhering to good operating practice for flight into icing conditions.</li> <li>• Performs take-off and climb, cruise, descent and landing with emphasis on correct procedures in icing conditions.</li> <li>• Completes all appropriate briefing/checklists.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Monitors ice accretion during flight.</li> <li>• Plans and executes ice avoidance if necessary.</li> <li>• Demonstrates correct crew co-ordination as required by type of operation.</li> </ul>

<b>ATC Liaison – Compliance, RT Procedures – Airmanship</b> (applies to all phases of flight)	
<b>OBJECTIVE</b>	To determine that the applicant uses correct R/T procedures, complies with ATC instructions and conducts the flight efficiently and safely.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Operates radio equipment correctly.</li> <li>• Operates transponder correctly.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Uses ICAO R/T phraseology.</li> <li>• Speaks clearly on R/T.</li> <li>• Reads back clearances correctly.</li> <li>• Complies with ATC clearances or instructions.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Manages flight safely with due regard to weather, other traffic and procedures – <i>see description of Airmanship on page****</i></li> </ul>

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Abnormal and Emergency Procedures (General)</b>	
<b>OBJECTIVE</b>	<p>To determine that the applicant exhibits adequate knowledge of the abnormal/emergency procedures (as may be determined by the examiner) relating to the particular aeroplane type.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• Examiner selects suitable malfunctions in accordance with the MCAR test schedule and aeroplane type.</li> <li>• It is strictly forbidden to disengage circuit breakers to simulate any kind of system failure(s) /malfunctions(s) in the aeroplane.</li> <li>• Depending on the aeroplane used these items may be checked by other means i.e. oral or by ‘touch-drills’ if required for safety</li> <li>• While simulating engine failure on a multi-engine aeroplane, the examiner or the safety pilot must be able to cope with a real failure on another engine.</li> <li>• The examiner or the safety pilot must also know the alarm inhibitions and the inefficacy of a continuous alarm due to any <i>failure simulation</i>.</li> </ul>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains control of aeroplane</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates the proper procedure for any emergency/abnormal situation (as determined by the examiner) in the appropriate approved AFM.</li> <li>• Completes the appropriate abnormal/emergency checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Shows correct fault diagnosis</li> <li>• Confirms fault diagnosis (with other crew members in MPA)</li> <li>• Reviews causal factors (with other crew members in MPA)</li> <li>• Identifies alternative courses of action</li> <li>• Involves other crew members in option analysis (MPA)</li> <li>• Considers and shares the risks of alternative courses of action</li> <li>• Confirms intended plan of action (with other crew members in MPA)</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Maintains adequate lookout, before, during and after execution of any manoeuvre by visual references.</li> <li>• Alerts ATC if necessary and obtains appropriate level of service</li> </ul>

<b>Rejected Take-off</b>	
see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	<p>To determine that the applicant exhibits adequate knowledge of the technique and procedure for accomplishing a rejected take-off after engine/system(s) failure/warnings, including related safety factors.</p> <p><b>Note:</b> <i>if no FTD available a rejected take-off reasonable speed must be determined (e.g. 50% of VMCA) —giving due consideration to aeroplane characteristics, runway length, surface conditions, wind direction, brake heat energy, and any other factors that might adversely affect safety.</i></p>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Abandons the take-off if any major problem or failure occurs at a point during the take-off where the abort procedure can be initiated and the aeroplane can be safely stopped on the remaining runway/stop way.</li> <li>• Uses spoilers, propeller reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, maintaining positive control in such a manner as to bring the aeroplane to a safe stop.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Accomplishes the appropriate engine failure or other procedures and/or briefing/checklists as set forth in the Pilot’s Operating Handbook or AFM.</li> <li>• Completes the appropriate briefing/checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Takes into account, prior to beginning the take-off, operational factors, which could affect the manoeuvre such as Take-off Warning Inhibit Systems or other aeroplane characteristics, runway length, surface conditions, wind, obstructions, and other related factors that could affect take-off performance and could adversely affect safety.</li> <li>• Identifies critical situation and makes timely decision to abandon take-off.</li> <li>• Informs ATC when practicable.</li> </ul>

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Simulated Engine Failure Between V<sub>1</sub> &amp; V<sub>2</sub> (ME Aeroplanes Simulator Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the procedures used during engine failure on take-off, the appropriate reference airspeeds, and the specific pilot actions required.  <i>Simulator only:</i> On a multi-engine aeroplane with published V <sub>1</sub> , V <sub>R</sub> , and/or V <sub>2</sub> speeds (performance Class A), the failure of the most critical engine should be simulated at a point:  After V <sub>1</sub> and prior to V <sub>2</sub> ; or As close as possible after V <sub>1</sub> when V <sub>1</sub> and V <sub>2</sub> or V <sub>1</sub> and V <sub>R</sub> are identical.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains the aeroplane alignment with the heading appropriate for climb performance and terrain clearance when engine failure occurs.</li> <li>• Adjusts the engine controls as recommended by the approved guidance for the existing conditions.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes required checks prior to starting take-off to verify the expected engine performance.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Takes into account, prior to beginning the take-off, operational factors which could affect the manoeuvre such as Take-off Warning Inhibit Systems or other aeroplane characteristics, runway length, surface conditions, wind, wake turbulence, obstructions, and other related factors that could adversely affect safety.</li> <li>• Identifies critical situation and makes timely decision to continue take-off.</li> </ul>

<b>Simulated Engine Failure After Take-off, (SE Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to engine failure after take-off.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains control following engine failure</li> <li>• Establishes the recommended glide airspeed.</li> <li>• Trims the aeroplane, and maintains control.</li> <li>• Simulates feathering the propeller if applicable.</li> <li>• Flies a suitable approach to chosen landing area such that a safe landing would not be in doubt.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Carries out the recommended emergency procedure.</li> <li>• Follows the checklist to verify procedures for securing the engine.</li> <li>• Demonstrates engine restart in accordance with recommended procedures if appropriate</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recognises engine failure.</li> <li>• Attempts to determine the reason for the engine malfunction, if appropriate.</li> <li>• Selects a suitable landing area, noting any surface conditions, obstructions or other hazards that might hinder a safe landing.</li> </ul>

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Simulated Engine Failure After Take-off, ME Aeroplane Only</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to engine failure after take-off.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains control following engine failure.</li> <li>• Reduces drag, and verifies the inoperative engine.</li> <li>• Secures the inoperative engine, if appropriate.</li> <li>• Simulates feathering the propeller of the inoperative engine, if appropriate.</li> <li>• Establishes <math>V_{YSE}</math>; if obstructions are present, establishes <math>V_{XSE}</math> or <math>V_{MC} + 10</math>, whichever is greater, until obstructions are cleared, then transitions to <math>V_{YSE}</math>.</li> <li>• Banks toward the operating engine up to <math>5^\circ</math> as required for best performance, trims the aeroplane and maintains control.</li> <li>• Monitors the operating engine and makes adjustments as necessary.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Carries out the recommended emergency procedure.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recognises engine failure promptly, and correctly identifies inoperative engine.</li> <li>• Assesses the aeroplane's performance capabilities and makes suitable decision to continue climb, return to aerodrome or prepare for a forced landing.</li> </ul>

<b>Simulated Engine Failure, Shutdown and Restart at Safe Height (ME Aeroplanes Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the flight characteristics and controllability associated with manoeuvring with engine(s) inoperative. To determine that the applicant can demonstrate an engine restart in flight. <i>Note:</i> These procedures must be initiated at a safe height
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains positive aeroplane control to maintain coordinated flight, and properly trims for that condition.</li> <li>• Sets engine controls, reduces drag as necessary</li> <li>• Maintains the operating engine(s) within acceptable operating limits.</li> <li>• Maintains desired altitude when a constant altitude is specified and is within the capability of the aeroplane.</li> <li>• Maintains the desired airspeed and heading.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Follows the prescribed aeroplane checklist, and verifies the procedures for securing the inoperative engine(s).</li> <li>• Demonstrates proper engine restart procedures in accordance with approved procedure-checklist or the manufacturer's recommended procedures and pertinent checklist items.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Correctly identifies and verifies the inoperative engine(s) after the failure</li> <li>• Determines the cause for the engine(s) failure and if a restart is a viable option.</li> </ul>



<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Simulated Engine Failure During Approach (ME Aeroplanes Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to an approach and landing with an inoperative engine.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains crosswind correction and directional control throughout the approach and landing.</li> <li>• Sets the engine controls, reduces drag, and identifies and verifies the inoperative engine after simulated engine failure.</li> <li>• Simulates feathering the propeller of the inoperative engine, if appropriate.</li> <li>• Establishes the recommended best engine inoperative approach landing configuration, and airspeed.</li> <li>• Monitors the operating engine and makes adjustments as necessary.</li> <li>• Maintains a stabilised approach and the recommended approach airspeed until landing is assured.</li> <li>• Makes smooth, timely, and correct control application during the round out and touchdown.</li> <li>• Touches down smoothly at the predetermined zone, with no drift, and with the aeroplane's longitudinal axis aligned with and over the runway centreline.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Carries out the recommended emergency procedure.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Recognises engine failure promptly, and correctly identifies inoperative engine.</li> <li>• Considers the wind conditions, landing surface, and obstructions, and selects the most suitable touchdown point.</li> </ul>

<b>Asymmetric Approach (ME Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to a published instrument approach with one engine inoperative (by reference to instruments). <i>Note: see 'Instrument Approach Procedures' for assessment of instrument procedures and apply the additional criteria for asymmetric approaches.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes and maintains the recommended flight attitude and configuration for the best performance for all manoeuvring necessary for the instrument approach procedure.</li> <li>• Maintains a stabilised approach and the recommended approach airspeed until landing is assured.</li> <li>• Monitors the operating engine(s) and makes adjustments as necessary.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Complies with the published approach procedure.</li> <li>• Applies additional allowance to approach minima as required for asymmetric condition.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Displays efficient cockpit management procedures throughout the approach.</li> </ul>

<b>Go-around with Engine(s) (Simulated) Inoperative (ME Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of a go-around procedure with one engine simulated inoperative, including the conditions that dictate a rejected landing, the importance of a timely decision, the recommended airspeeds.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Applies the appropriate power setting for the flight condition and establishes a pitch attitude necessary to obtain the desired performance.</li> <li>• Establishes a positive rate of climb and climb at the appropriate airspeed to the correct acceleration altitude.</li> <li>• Retracts the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence.</li> <li>• Trims the aeroplane as necessary, and maintains the proper ground track and altitudes during the rejected landing procedure.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Accomplishes the appropriate briefing/checklist items in a timely manner in accordance with approved procedures.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes a timely decision to reject the landing for actual or simulated circumstances and makes appropriate notification when safety-of-flight is not an issue.</li> </ul>

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Landing with Engine(s) (Simulated) Inoperative (ME Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the flight characteristics and controllability associated with manoeuvring to a landing with (a) engine(s) inoperative (or simulated inoperative) including the controllability factors associated with manoeuvring, and the applicable emergency procedures.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes the approach and landing configuration appropriate for the runway and meteorological conditions; and adjusts the engine controls as required.</li> <li>• Maintains a stabilised approach and the desired airspeed</li> <li>• Maintains the operating engine(s) within acceptable operating limits</li> <li>• Accomplishes a smooth, positively controlled transition from final approach to touchdown.</li> <li>• Uses spoilers, propeller reverse, thrust reversers, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the aeroplane to a safe stop after landing.</li> <li>• Maintains positive directional control and crosswind corrections during the after-landing roll.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes the applicable before landing checklist.</li> <li>• Completes the applicable after-landing briefing/checklist items in a timely manner, after clearing the runway, and as recommended by the manufacturer.</li> </ul>
<b>Emergency &amp; Survival Equipment</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to emergency equipment and survival gear appropriate to the aeroplane provided for the flight test. <i>Note: Examiner questions applicant on location and use of emergency equipment.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Location in the aeroplane.</li> <li>• Method of operation or use.</li> <li>• Servicing requirements.</li> <li>• Method of safe storage.</li> <li>• Equipment and survival gear appropriate for operation in various climates and topographical environments</li> </ul>
<b>Simulated Forced Landing (SE Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the flight characteristics, approach and forced (emergency) landing procedures, and related procedures to use in the event of an engine failure (as appropriate to the aeroplane). <b>NOTE:</b> <i>No simulated engine failure will be given by the examiner in an aeroplane when an actual touchdown could not be safely completed should it become necessary.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains positive control throughout the manoeuvre.</li> <li>• Establishes and maintains the recommended best glide airspeed and configuration during a simulated engine failure.</li> <li>• Establishes a proper flight circuit to the selected aerodrome or landing area</li> <li>• Uses configuration devices such as landing gear and flaps in a manner recommended by the manufacturer and/or approved.</li> <li>• Flies a suitable approach to chosen landing area such that a safe landing would not be in doubt.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Follows the emergency checklist items appropriate to the aeroplane</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Selects a suitable aerodrome or landing area, which is within the performance capability of the aeroplane.</li> <li>• Takes into account altitude, wind, terrain, obstructions, and other pertinent operational factors.</li> <li>• Determines the cause for the simulated engine failure (if altitude permits) and if a restart is a viable option.</li> </ul>

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Simulated Precautionary Landing (With Power) – (SE Aeroplane Only)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to lost procedures and precautionary forced landing with power.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains the appropriate heading, and if necessary, climbs.</li> <li>• Establishes a proper flight circuit to the selected aerodrome or landing area.</li> <li>• Flies a suitable approach to chosen landing area such that a safe landing would not be in doubt.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Selects the best course of action when given a lost situation.</li> <li>• Attempts to identify nearest prominent landmark(s).</li> <li>• Uses available navigation aids and/or contacts an appropriate facility for assistance.</li> <li>• Plans a precautionary landing if deteriorating weather and/or fuel exhaustion is impending.</li> <li>• Selects a suitable aerodrome or landing area, which is within the performance capability of the aeroplane.</li> </ul>

<b>Fire Drills</b>	
see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant possesses adequate knowledge of the emergency procedures (as may be determined by the examiner) relating to the particular aeroplane type.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Exhibits adequate knowledge of fire detection and extinguishing systems.</li> <li>• Performs all actions required by the fire drills.</li> <li>• Maintains aeroplane control.</li> </ul>
<b>PROCEDURAL</b>	• Demonstrates proper procedures in accordance with approved procedure/briefing/checklist or the manufacturer’s recommended procedures
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Identifies source of smoke/fire in a timely manner.</li> <li>• Takes care of passenger/crew safety.</li> <li>• Initiates emergency descent/diversion if appropriate.</li> </ul>

<b>Wind shear During Take-off &amp; Landing</b>	
see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of wind shear at take-off/landing.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound judgement and knowledge of the aeroplane manoeuvring capabilities throughout the procedure.</li> <li>• Adjusts aeroplane configuration and speeds as appropriate.</li> <li>• Maintains smooth and positive control within aeroplane limitations.</li> </ul>
<b>PROCEDURAL</b>	• Performs all procedures required for wind shear at take-off/landing and aeroplane control in a smooth, positive, and timely manner.
<b>NONTECHNICAL</b>	

<b>SIMULATED CABIN PRESSURE FAILURE/EMERGENCY DESCENT</b>	
<i>SEE ABNORMAL AND EMERGENCY PROCEDURES (GENERAL)</i>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge (simulated) cabin pressure failure/emergency descent.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound judgement and knowledge of the aeroplane manoeuvring capabilities throughout the procedure.</li> <li>• Performs emergency descent in a smooth, positive, and timely manner without exceeding limitations.</li> </ul>
<b>PROCEDURAL</b>	• Demonstrates proper procedures in accordance with approved procedure/briefing/checklist or the manufacturer’s recommended procedures and pertinent briefing/checklist items.
<b>NONTECHNICAL</b>	

<b>ABNORMAL AND EMERGENCY PROCEDURES</b>	
<b>Incapacitation of Flight Crew Member (only for MPA)</b> see Abnormal and Emergency Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of incapacitation of flight crewmember.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains aeroplane control in a smooth, positive, and timely manner.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Performs all procedures for incapacitation of flight crewmember in accordance with approved procedure/briefing/checklist or the manufacturer’s recommended procedures and pertinent briefing/checklist items.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Identifies crew incapacitation in a timely manner.</li> <li>• Ensures safety of crewmember and clear of aeroplane controls.</li> </ul>

<b>INSTRUMENT PROCEDURES</b>	
<b>Arrival Procedures and Instrument Procedures (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant, In actual or simulated instrument conditions, exhibits adequate knowledge of En Route Low and High Altitude Charts, STARS, Instrument Approach Procedure Charts, and related pilot and controller responsibilities.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes correct use of Instruments, flight director, autopilot, navigation equipment and communication equipment appropriate to the performance of the procedure.</li> <li>• Intercepts, in a timely manner, all courses, radials, and bearings (QDM/QDR’s) appropriate to the procedure, route, ATC clearance, or as directed by the examiner.</li> <li>• Establishes, where appropriate, a rate of descent consistent with the aeroplane operating characteristics and safety.</li> <li>• Maintains the appropriate airspeed- altitude, headings and accurately tracks radials, courses, and bearing (QDM/QDR’s).</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Uses the current and appropriate navigation publications for the proposed flight.</li> <li>• Performs the aeroplane briefing/checklist items appropriate to the arrival.</li> <li>• Establishes communications with ATC, using proper phraseology.</li> <li>• Complies, in a timely manner, with all ATC clearances, instructions, and restrictions.</li> <li>• Exhibits adequate knowledge of two-way communications failure procedures.</li> <li>• Adheres to airspeed restrictions and adjustments required by regulations, ATC, the Pilot’s Operating Handbook, the AFM, and the examiner.</li> <li>• Complies with the provisions of the descent profile, STAR, and other arrival procedures, as appropriate.</li> <li>• Performs correct altimetry procedures, in accordance with the regulations, operational procedures and ATC requirements.</li> <li>• Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.</li> <li>• Demonstrates terrain awareness, orientation, division of attention, and proper planning.</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Liaises with other crew members for correct operation of the aircraft systems during approach and landing</li> <li>• Demonstrates orientation, division of attention, and proper planning</li> </ul>

<b>INSTRUMENT PROCEDURES</b>	
<b>Setting Navigation Aids and Identification of Facilities</b> see Arrival Procedures and Instrument Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant correctly selects and identifies all navigation and communications equipment, instrument references, flight director and associated navigational aids, for descent and arrival and exhibits adequate knowledge of the Morse Code.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Tunes and identifies navigational facilities as appropriate to the procedure.</li> <li>• Correctly selects Navigational aids to flight instruments such as HSI, RMI, OBS, flight director, autopilot etc. as appropriate.</li> <li>• Demonstrates adequate knowledge of Morse Code to identify aids.</li> <li>• Demonstrates correct use of course indicators to indicate QDM/QDR.</li> <li>• Demonstrates correct use of communications equipment including SSR equipment.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Monitors Navigation equipment for signal/equipment failure.</li> </ul>

<b>Approach and Landing Briefing, Including Descent, Approach and Landing Checks</b> see Arrival Procedures and Instrument Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of approach and landing briefings, whether single or multi-pilot, including descent, approach and landing checks. <i>NOTES: The approach briefing should include weather considerations and confirmation of instrument approach procedure minima. All procedures, checks and drills in preparation for landing and for missed approach. The briefing will include appropriate corrections for PEC and temperature adjustments, as well as performance considerations and reference speeds to be used. The applicant will be required also, to ensure that the passengers receive a safety briefing.</i>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound judgement and consideration of the aeroplane manoeuvring capabilities throughout the briefings.</li> <li>• Performs all procedures required and maintains aeroplane control in a smooth, positive, and timely manner.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Presents proper briefings in accordance with the operator's standard, approved procedures or the manufacturer's recommended procedures for the correct operation of the aircraft systems.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Involves other crew members in the briefing and correctly follows correct SOP for confirmation of the intended approach procedure, approach minima and missed approach procedure.</li> <li>• Demonstrates orientation, division of attention and proper planning for the approach and landing phase.</li> <li>• Includes due consideration for missed approach procedures and diversion planning, in the briefing.</li> </ul>

<b>INSTRUMENT PROCEDURES</b>	
<b>Holding Procedures</b> see Arrival Procedures and Instrument Procedures (General)	
<b>OBJECTIVE</b>	To determine that the applicant, In actual or simulated instrument conditions, exhibits adequate knowledge of and proficiency in holding procedures for standard and non-standard, published and non-published IFR holding patterns.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Changes to the recommended holding airspeed appropriate for the aeroplane and holding altitude, so as to cross the holding fix at or below maximum holding airspeed.</li> <li>• Uses wind-drift correction techniques accurately to maintain the appropriate joining and holding pattern and to establish and maintain the correct tracks and bearings.</li> <li>• Maintains the appropriate airspeed, altitude and headings accurately to establish and maintain the correct tracks and bearings.</li> <li>• Demonstrates adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Recognises arrival at the clearance limit or holding fix.</li> <li>• Follows appropriate entry procedures in accordance with standard operational procedures or as required by ATC or the examiner.</li> <li>• Complies with ATC reporting requirements.</li> <li>• Uses the correct timing criteria where required by the holding procedure, ATC or the examiner's instructions.</li> <li>• Makes appropriate adjustments to the procedure timing, to allow for the effects of known wind.</li> <li>• Makes appropriate adjustments in order to arrive over the holding fix as close as possible to the "Expected Approach Time".</li> </ul>

<b>Instrument Approaches (General)</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of altitude, speed and heading control and performs a stabilised approach in the correct configuration.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes the appropriate aeroplane configuration and airspeed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions.</li> <li>• Prior to beginning the final approach segment, maintains the desired altitude, heading and airspeed and accurately tracks radials, courses, and bearings, in accordance with the approach procedure or as directed by ATC.</li> <li>• Demonstrates satisfactory altitude, speed and heading control, with the aircraft in trim such that a stable approach path is achieved and maintained to the approach minima.</li> <li>• Transitions to a normal landing approach only when the aeroplane is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal manoeuvring.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Selects, tunes, identifies, and monitors the operational status of ground and aeroplane navigation equipment used for the approach.</li> <li>• Advises ATC anytime the applicant is unable to comply with a clearance.</li> <li>• Completes the aeroplane briefing/checklist items appropriate to the phase of flight or approach segment, including engine out approach and landing briefing/checklists.</li> <li>• Follows the published approach procedure in accordance with ATC instructions, or as directed by the examiner.</li> <li>• Makes appropriate adjustments to the procedure timing, to allow for the effects of known wind.</li> <li>• Applies the necessary adjustments to the published approach minima criteria for the aeroplane approach category, and with due regard for <ul style="list-style-type: none"> <li>○ NOTAMS</li> <li>○ Inoperative navigation equipment</li> <li>○ Inoperative visual aids associated with the landing environment.</li> <li>○ Reported weather conditions</li> </ul> </li> <li>• Completes the appropriate briefing/checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes two-way communications with ATC using the proper communications phraseology and techniques.</li> <li>• Copies correctly, in a timely manner, the ATC clearance as issued.</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Ensures or confirms that passengers, crew etc are correctly secured for landing.</li> <li>• Demonstrates correct crew co-ordination as required by type of operation</li> <li>• Demonstrates orientation throughout the manoeuvre</li> <li>• Encourages participation of other crewmembers in accordance with approved SOP.</li> </ul>

<b>INSTRUMENT PROCEDURES</b>	
<b>Precision approach</b> see Instrument Approaches (General )	
<b>OBJECTIVE</b>	<p>To determine that the applicant exhibits adequate knowledge and skill in accomplishing the precision instrument approach procedures, as determined by the examiner, with all engines operating, and / or with one engine inoperative, where applicable.</p> <p><b>NOTE:</b> <i>Precision approaches, using aeroplane NAVAID equipment for centreline and glide slope guidance may be accomplished in simulated or actual instrument conditions to Decision Altitude/Height (DA/DH) and must be flown without the use of an autopilot.</i></p> <p><i>Where the approach is required to be flown with one engine inoperative, simulated engine shut-down must be completed before the final approach segment. This engine out condition should be preserved until completion of the landing run or throughout the go-around procedure.</i></p> <p><i>For ILS displays with a normal scale, the approach should be contained within a half scale deflection of the localizer and glide slope indications. For aircraft with an expanded scale display of the localizer, the approach should be contained within the full scale deflection of the localizer and half scale deflection of the glide slope indications.</i></p>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Intercepts and tracks localizer within prescribed limits.</li> <li>• Establishes a predetermined rate of descent at the point where the electronic glide slope begins, in order to follow the glide slope. Maintains electronic glide slope within prescribed limits.</li> <li>• <i>Arrives at the DA/DH in such a position that a landing, go-around or circling approach may be accomplished safely.</i></li> <li>• Avoids descent below the DA/DH before initiating a missed approach procedure or transitioning to a landing.</li> <li>• Initiates immediately the missed approach, when at the DA/DH, if the required visual references for the runway are not unmistakably visible and identifiable.</li> <li>• Maintains localizer and glide slope during the visual descent from DA/DH to a point over the runway where glide slope must be abandoned to accomplish a normal landing.</li> </ul>
<b>PROCEDURAL</b>	See Instrument Approaches General
<b>NONTECHNICAL</b>	See Instrument Approaches General

<b>Non Precision approach</b> see Instrument Approaches (General )	
<b>OBJECTIVE</b>	<p>To determine that the applicant exhibits adequate knowledge and skill in accomplishing the non-precision instrument approach procedures, as determined by the examiner, with all engines operating, and / or with one engine inoperative, where applicable.</p>
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes a rate of descent that will ensure arrival at the MDA/H (at, or prior to reaching, the visual descent point if published) with the aeroplane in a position from which a descent from MDA/H to a landing on the intended runway can be made, at a normal rate using normal manoeuvring.</li> <li>• Executes the missed approach if the required visual references for the intended runway are not unmistakably visible and identifiable at the missed approach point.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates adequate judgement and knowledge of the aeroplane performance in order to comply with published approach procedures equipment used for the approach.</li> </ul>
<b>NONTECHNICAL</b>	

<b>INSTRUMENT PROCEDURES</b>	
<b>Circling Approach</b> see Instrument Approaches (General )	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate, knowledge and skill in accomplishing circling approach procedures, as determined by operational conditions, or by the examiner, with all engines operating, and / or with one engine inoperative, where applicable.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates knowledge of circling approach categories, speeds and procedures.</li> <li>• Uses the appropriate aeroplane configuration for normal and abnormal situations and procedures.</li> <li>• Manoeuvres the aeroplane, by visual references, after reaching the authorised circling approach altitude, to maintain a flight path that permits a normal landing on a runway at least 90° from the final approach course, or according to published procedure.</li> <li>• Maintains at least the published minimum circling level throughout the circling procedure until a position is reached, from which a descent to a normal landing can be made.</li> <li>• Maintains visual contact with the landing threshold throughout the circling procedure.</li> <li>• Performs the procedure without excessive manoeuvring and without exceeding the normal operating limits of the aeroplane (the angle of bank should not normally exceed 30°).</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Confirms the direction of traffic and adheres to all restrictions and instructions issued by ATC.</li> <li>• Maintains the correct circling pattern and follows any prescribed tracks in accordance with the published procedure or as directed by ATC or the Examiner.</li> <li>• Turns in the appropriate direction, when a missed approach is dictated during the circling approach, and uses the correct procedure and aeroplane configuration.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound judgement and knowledge of the aeroplane manoeuvring capabilities throughout the circling approach.</li> </ul>

<b>Go-Around &amp; Missed approach</b> see Instrument Approaches (General )	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge and skill in the application of missed approach procedures associated with standard instrument procedures.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Initiates the missed approach procedure promptly by the timely application of power, establishes the proper climb attitude, and re-configures the aircraft in accordance with the approved procedures.</li> <li>• Maintains the desired altitudes, airspeed, heading and accurately tracks courses, radials, and bearings.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Follows the recommended aeroplane briefing/checklist items appropriate to the go-around procedure for the aeroplane used.</li> <li>• Complies with the appropriate missed approach procedure or ATC clearance</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Requests clearance, if appropriate, to the alternate aerodrome, another approach, a holding fix, or as directed by the examiner.</li> <li>• Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.</li> </ul>



<b>ARRIVAL AND LANDING PROCEDURES</b>	
<b>Aerodrome Arrival Procedures</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the appropriate arrival procedures and relevant pilot and controller responsibilities, and makes proper reference to the appropriate navigation publications and charts.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains the appropriate airspeed- altitude, headings</li> <li>• Exhibits adequate knowledge of two-way communications failure procedures.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Uses the current and appropriate navigation publications for the proposed arrival routing.</li> <li>• Complies in a timely manner with ATC instructions and airspace restrictions.</li> <li>• Performs the aeroplane briefing / checklist items appropriate to the arrival.</li> <li>• Performs correct altimetry procedures, in accordance with the regulations, operational procedures and ATC requirements.</li> <li>• Completes the appropriate checklist.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes communications with ATC, using proper phraseology.</li> <li>• Interprets correctly the ATC clearance received and, when necessary, requests clarification, verification, or change.</li> <li>• Demonstrates terrain awareness, orientation, division of attention, and proper planning.</li> <li>• Liaises with other crewmembers for correct operation of the aircraft systems throughout the arrival phase.</li> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Liaises with other crew members for lookout (where appropriate)</li> </ul>
<b>All landings (Including Normal Landing) General</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits satisfactory knowledge and skill in the execution of landings, with due regard for recommended approach angles, airspeed, configuration, performance limitations, wake turbulence, and safety factors (as appropriate to the aeroplane).
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes the recommended approach and landing configuration and airspeed, and adjusts pitch attitude and power as required, to maintain the correct approach path and airspeed.</li> <li>• Maintains a ground track that ensures the desired traffic circuit will be flown, taking into account any obstructions and ATC or examiner requirements.</li> <li>• Makes proper correction for drift, (using existing wind conditions) and maintains a precise ground track.</li> <li>• Achieves and maintains a stabilised approach.</li> <li>• Accomplishes a smooth, positively controlled transition from final approach to touchdown.</li> <li>• Achieves a landing within the designated touchdown zone, at the correct speed, in the correct attitude and on the runway centreline.</li> <li>• Touches down with no side drift and with the aeroplane aligned with the runway centreline.</li> <li>• Maintains positive directional control throughout the landing roll.</li> <li>• Uses spoilers, propeller reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the aeroplane to a safe stop.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes the appropriate pre-landing checklist</li> <li>• Completes the appropriate after-landing checklist items.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Ensures or confirms that passengers and crew are correctly secured for take-off / landing.</li> <li>• Correctly interprets the ATC clearance received and, when necessary, requests clarification, verification or change</li> <li>• Liaises with other crew members for correct operation of the aircraft systems during approach and landing.</li> <li>• Considers the wind conditions, landing surface and obstructions, and selects the correct touch down point.</li> <li>• Listens to the RT environment to establish satisfactory awareness of other traffic</li> <li>• Demonstrates orientation, division of attention, and proper planning</li> <li>• Divides attention properly inside and outside cockpit.</li> <li>• Maintains adequate look-out for other aeroplanes</li> <li>• Notes any surface conditions, obstructions or other hazards that might hinder a safe take-off / landing</li> <li>• Shows consideration for other aeroplanes on the ground and in the air</li> </ul>

<b>ARRIVAL AND LANDING PROCEDURES</b>	
<b>Short Field Approach &amp; Landing</b> See All Landings General	
<b>OBJECTIVE</b>	To determine that the applicant exhibits satisfactory knowledge and skill in the execution of a short-field approach and landing.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains a stabilised approach and achieves the recommended approach airspeed, or in its absence at 1.3 V<sub>SO</sub> , with gust factor applied</li> <li>• Achieves a landing, accurately within the runway touchdown zone.</li> <li>• Applies brakes, spoilers, reverse thrust and / or such other devices for the slowing of the aircraft in accordance with the manufacturers' recommendations, to stop in the shortest distance consistent with safety and the certificated performance of the aircraft.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	

<b>Flapless Landing</b> See All Landings General	
<b>OBJECTIVE</b>	To determine that the applicant exhibits satisfactory knowledge and skill in the execution of a safe landing without flaps or with slats /flaps malfunction.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Maintains a stabilised approach at an appropriate approach speed, in accordance with the Pilot's Operating Handbook / AFM</li> <li>• Accomplishes a smooth, positively controlled transition from final approach to touchdown.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes due allowance for landing performance in the no flap/no slat configuration.</li> </ul>

<b>Approach and Landing with Idle Power (Single Engine Aeroplanes Only)</b> See All Landings General	
<b>OBJECTIVE</b>	To determine that the applicant exhibits satisfactory knowledge and skill in the execution of a safe landing with the engine at idle power.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Reduces to idle power in such a position as to achieve a glide descent and landing on the runway, in an area pre-selected by the applicant or nominated by the examiner.</li> <li>• Adjusts pitch attitude to maintain the correct gliding airspeed.</li> <li>• Uses drag and configuration changes to ensure the touchdown point is within the selected area.</li> <li>• Applies brakes, to stop in the shortest distance consistent with safety.</li> </ul>
<b>PROCEDURAL</b>	
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Uses correct RT phraseology to obtain the appropriate clearance and advise ATC of any technical problem.</li> <li>• Makes due allowance for traffic pattern and other aeroplanes</li> <li>• Correctly assess effect of wind on glide performance.</li> </ul>

<b>ARRIVAL AND LANDING PROCEDURES</b>	
<b>Landing with simulated jammed horizontal stabiliser in any out-of-trim position</b> See All Landings General	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of the factors which influence control of the aircraft with jammed stabilizer, in any out-of-trim position, including the use of various drag configurations, power settings, pitch attitudes, weights, and bank angles
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates sound judgement and knowledge of the aeroplane manoeuvring capabilities throughout the procedure.</li> <li>• Maintains safe aeroplane control in a smooth, positive, and timely manner.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates proper procedures in accordance with approved procedure/briefing/checklist or the manufacturer's recommended procedures and pertinent briefing/checklist items.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates satisfactory situation / problem analysis</li> <li>• Involves other crew members in problem analysis (MPA)</li> <li>• Shows correct fault diagnosis</li> <li>• Confirms fault diagnosis (with other crew members in MPA)</li> <li>• Reviews causal factors (with other crew members in MPA)</li> <li>• Identifies alternative courses of action, if appropriate</li> <li>• Involves other crew members in option analysis (MPA)</li> <li>• Confirms intended plan of action (with other crew members in MPA)</li> <li>• Uses correct RT phraseology to obtain the appropriate clearance and advise ATC of any technical problem.</li> </ul>
<b>Touch and go</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to a touch and go including the importance of a timely decision to continue or to stop on the runway.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Establishes the recommended take-off configuration and applies take-off power, to transition safely to a normal or short field take-off, as appropriate to the aircraft type and the conditions</li> <li>• Maintains directional control and drift correction.</li> <li>• Establishes a safe climb in the correct configuration and at the correct speed.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Complies with the appropriate traffic pattern and noise abatement procedures.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes a timely decision to discontinue the landing.</li> </ul>
<b>Go-around from low height</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge and skill in a rejected landing procedure, including the conditions that dictate a rejected landing, the importance of a timely decision, the recommended airspeeds, and also the appropriate re-configuration procedure. <b>NOTE:</b> The manoeuvre may be combined with visual, instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet (30 meters) above the runway. This manoeuvre should be initiated in the landing configuration, when approximately 50 feet (15 meters) above the runway and approximately over the runway threshold or as recommended.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Applies the appropriate power setting for the flight condition and establishes a pitch attitude necessary to obtain the desired performance.</li> <li>• Retracts the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, establishes a positive rate of climb and the appropriate airspeed</li> <li>• Trims the aeroplane as necessary, and maintains the proper ground track during the rejected landing procedure.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Accomplishes the appropriate checklist items in a timely manner in accordance with approved procedures.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Makes a timely decision to reject the landing for actual or simulated circumstances and makes appropriate notification when safety-of-flight is not an issue.</li> <li>• Demonstrates proper consultation with other crew members (MPA)</li> <li>• Liaises with other crew members for correct operation of the aircraft systems whilst changing power setting, configuration and airspeed (MPA).</li> <li>• Correctly interprets the ATC clearance received and, when necessary, requests clarification, verification or change</li> </ul>

<b>ARRIVAL AND LANDING PROCEDURES</b>	
<b>After Landing and taxiing</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of safe after landing and taxi procedures as appropriate.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates proficiency by maintaining correct and positive control.</li> <li>• Maintains proper spacing on other aeroplane, obstructions, and persons. Maintains the appropriate speed</li> <li>• Maintains constant vigilance and aeroplane control during the taxi operation.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Accomplishes the applicable briefing/checklist items and performs the recommended procedures.</li> <li>• Complies with instructions issued by ATC (or the examiner simulating ATC).</li> <li>• Observes runway hold lines, localizer and glide slope critical areas, and other surface control markings and lighting.</li> </ul> <p>Completes the appropriate checklist.</p>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Demonstrates correct crew co-ordination as required by type of operation (MPA)</li> <li>• Ensures that correct crew and passenger briefings are completed</li> <li>• Liaises with other crew members for lookout (MPA)</li> </ul> <p>Divides attention properly inside and outside cockpit.</p>
<b>Parking and Securing</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits adequate knowledge of parking and securing aeroplane procedures.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Correctly parks and secures aeroplane.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes the aeroplane flight records including flight time records and discrepancies.</li> </ul>
<b>NONTECHNICAL</b>	

<b>NIGHT OPERATIONS applicable to all Flight Phases</b>	
<b>Night Preparation</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to night operations by explaining:
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Lighting systems identifying aerodromes, runways, taxiways and obstructions, and pilot controlled lighting.</li> <li>• Aeroplane lighting systems.</li> <li>• Personal equipment essential for night flight.</li> <li>• Night orientation, navigation, and chart reading techniques.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Safety precautions and emergencies peculiar to night flying.</li> </ul>
<b>NONTECHNICAL</b>	<ul style="list-style-type: none"> <li>• Physiological aspects of night flying including the effects of changing light conditions, coping with illusions, and how the pilot's physical condition affects visual acuity.</li> </ul>
<b>Night Operation</b> <b>including Night circuit, go-around and landing with landing lights off</b>	
<b>OBJECTIVE</b>	To determine that the applicant exhibits knowledge of the elements related to night flight.
<b>TECHNICAL</b>	<ul style="list-style-type: none"> <li>• Inspects the interior and exterior of the aeroplane with emphasis on those items essential for night flight.</li> <li>• Taxiing adhering to good operating practice for night conditions.</li> <li>• Performs take-offs and climbs with emphasis on correct visual and instrument references.</li> <li>• Navigates and maintains orientation.</li> <li>• Approaches, lands, and taxiing, adhering to good operating practices for night conditions.</li> </ul>
<b>PROCEDURAL</b>	<ul style="list-style-type: none"> <li>• Completes all appropriate briefing/checklists.</li> </ul>
<b>NONTECHNICAL</b>	

## CHAPTER 4 – TEST STANDARDS

### HELICOPTER

This Chapter gives a practical guide to the criteria to be considered by the Examiner when assessing each item of PART-FCL helicopter tests and checks.

The following guidance information is offered to assist the Examiner to conduct a thorough flight test. These recommendations will aid in making accurate assessments of the applicant's skill and knowledge.

#### 4.1 Airmanship

Airmanship is not always listed in the performance criteria for each item, but it is an integral part of the performance of each item, when relevant, and should be evaluated.

#### 4.2 Preparation for Flight

Ensure that questions asked are relative to the helicopter being used for the flight test. Emphasize the maintenance release conditions, deferred defects and the number of hours or calendar time remaining before the next maintenance action is due. Suggest a scenario outlining an unserviceability discovered during flight and ask questions to determine the applicant's knowledge of procedures to follow as a consequence of that discovery and its impact on the proposed flight.

The applicant may use the Flight Manual to determine information other than the limitations listed in the flight test guide as memory items. For some of the memory items, depending on the aircraft type and where placards are accessible in flight, the applicant may refer to the equivalent placards illustrated in the Helicopter Flight Manual to quote limitations.

Record the answers given to questions regarding limitations and operational data so that, during the flight test, the actual limitations and operational data used may be compared. Keep questions related to the Flight Manual practical and operational in nature, particularly if the conditions of temperature, wind strength, high density altitude, etc. existing at the time of flight test can be utilized or, if not, by incorporating them in a scenario.

The applicant should be asked to correct the loading where the C of G is beyond limits, and questioned to determine understanding of extreme C of G locations and the resulting effect on helicopter handling and performance. It is recommended to use a scenario-based example such as: Where a passenger or passengers with equipment were to be embarked or disembarked at a certain location where the helicopter could not be shut down because of operational reasons.

How would the pilot ensure that the aircraft is within the C of G limits? Should there be any doubt in the Examiner's mind with regard to the completed weight and balance form presented by an applicant, the Examiner should determine the level of knowledge by thorough questioning in this area.

The applicant should be questioned with regard to the appropriate action to be taken if an unsatisfactory item is detected during the pre-flight inspection. For example, you may ask a question about the action to be taken regarding a filter blockage, as applicable to the type. A failure by the applicant to visually, or by other means, confirm that there is sufficient fuel and oil for the intended flight, is disqualifying and will constitute a failure of the flight test. It is intended that the visual fuel check be an actual check of the tank (or tanks) as opposed to just a check of the fuel gauges.

If the helicopter design dictates that visual checks are not practicable or possible, the Examiner may accept fuel chits, fuel logs, etc., that in the Examiner's judgment meet the confirmation requirements. The applicant is expected to conduct an oral passenger safety briefing at this time. Should the applicant omit the briefing, the Examiner will ask the applicant to provide one. This situation will be assessed as a major error and the final assessment awarded will depend upon the quality and effectiveness of the briefing.

A helicopter pilot may have to describe a serviceability problem to maintenance personnel, especially when in a remote location; therefore, applicants are expected to know the name of major components, as applicable to the type, their location and their basic function. For example, when having a problem starting a turbine engine, the pilot is expected to be able to tell maintenance personnel if the bleed valve is open or closed.

When asking the applicant to describe the basis function of a component or system, the expected depth of the knowledge could differ depending on whether the flight test is private or commercial. In all cases, ask practical questions that would probe a deeper understanding of a component or system from a commercial applicant than a private one and mark the performance according to the type of flight test performed.

The applicant should use the checklist provided with the helicopter. If the Examiner does not agree with the content of the checklist, the applicant should not be penalized. This would be an item for the Examiner to discuss with the training unit or establishment, and if necessary the Regional Flight Training Section. The checks carried out by an applicant should cover at least the items mentioned in the Helicopter Flight Manual.

The applicant should be questioned at this time to determine what action would be taken if a problem emerges (e.g. excessive magneto-drop, a hot start, engine overspeed or instruments not indicating when anti-ice or carburetor heat controls are selected and/or reset etc.).

**Note:** *A check of flight controls for freedom and the correct movement of the corresponding rotor blades are mandatory and will be conducted before flight. In some cases during the winter months the check can be performed during the pre-flight inspection while the aircraft is still inside the hanger to avoid damage to the rotor head. Should the applicant neglect this check, the Examiner will ask the applicant to perform it and a major error will be noted.*

### **4.3 Conduct of Test/Check**

#### **4.3.1 Ancillary Controls and Aircraft Systems**

The applicant should demonstrate an adequate practical knowledge of the operation of systems installed on the helicopter being used for the flight test and will be expected to use all ancillary controls in the correct manner during the flight. If the operation of a system or the use of an ancillary control was not required during the flight, the Examiner may require a demonstration, simulated or actual, to evaluate the applicant's practical knowledge of that control or system.

#### **4.3.2 Takeoff and Landing to and from the Hover**

This item must be assessed on a continuing basis throughout the flight test and a mark awarded only after the final landing. The applicant is expected to demonstrate accuracy maintaining position and heading while respecting all operating limitations during the takeoffs and landings to and from the hover. The Examiner should request into and out of wind demonstrations by using scenarios, whenever possible.

During the takeoff, verify that the applicant checks that the skids are free, the control response, the position of the cyclic for the C of G and the power required to hover. In a stable hover, verify that the applicant checks temperatures, pressures and warning lights. Failure to carry out a take-off check will result in a failure of this item.

When landing, a seating check will be performed as appropriate to the type of landing surface. For example, when landing on a paved surface the seating check only needs minimal precaution compared to a landing on an unprepared surface.

#### **4.3.3 Hover, Hover Taxi and Hovering Turns**

This exercise is tested in conjunction with the exercise listed before, which includes hover taxiing sideways and rearwards. These items may be accessed during the demonstration of other items or by itself.

The Examiner must confirm the applicant's lookout particularly when hover taxiing or turning in a hover in a confined area, a busy ramp or an area of sloping ground. In addition to into-wind demonstrations, the applicant should be asked to hover and hover taxi crosswind and downwind, when conditions permit.

#### **4.3.4 Engine Failure at the Hover or Hover Taxi, TODP, LDP**

It is important that the Examiner uses a suitable landing area, such as a runway or a smooth grassy surface. If you are not familiar with the site, it is strongly recommended to test the surface prior to the engine failure, by landing on it. For MEH, the appropriate CAT A procedures with OEI shall be applied.

#### **4.3.5 Transitions**

In case of an actual emergency, a departure or an arrival should be conducted into wind, whenever possible. As it is not always possible to depart or arrive into wind because of obstacles or runway direction, the applicant is expected to compromise in order to maximize the possibility of a successful landing in the event of an actual emergency.

#### **4.3.6 Malfunctions and Emergency Procedures**

The Examiner will determine if helicopter performance, weather conditions and other factors permit the safe conduct of simulated malfunctions or emergency procedures in flight or on the ground with the engine running. At least two of the malfunctions or emergencies should be simulated in flight. The other malfunction or emergency may be tested on the ground with the engine shut down.

Examiners should use a random sampling system, so that applicants will not know in advance what to expect. A random sampling system should also include diversity in the types of malfunctions or emergencies given to the applicant during the flight test. For example, if an applicant is given as a first malfunction a simulated transmission chip indicator, a second malfunction should not be a malfunction that requires similar outcome like a loss of transmission oil pressure. Any malfunctions or emergencies that are listed in the Pilot Operating Handbook (POH) and/or any malfunctions or emergencies relevant to the type that are part of the Flight Training Manual may be simulated and assessed during any portion of the flight test, including tail rotor control failure.

The Examiner must ensure, when simulating emergency or abnormal flight situations that suitable landing areas are available, if required to carry out a prompt precautionary landing. If a site is found to be unacceptable for the purpose of the test upon closer inspection, the Examiner may decide to not proceed to an actual landing by requesting that the applicant recover to a hover or overshoot to a climb.

#### **4.3.7 Traffic Circuit**

This item must be assessed on a continuing basis throughout the flight test and a mark awarded only after the final landing. This will ensure that the applicant is assessed on the departure and entry procedures as well as a complete circuit after a takeoff leading to a landing.

Examiners are expected to familiarize themselves with the type of circuit, speeds, heights, and power settings used by the flight training unit during the training.

Whenever possible, use both controlled and uncontrolled aerodromes during the test. The applicant should be assessed on controlled aerodrome procedures or given simulated ATC clearances and instructions when the test is conducted entirely at an uncontrolled aerodrome. Conversely, the applicant's knowledge of uncontrolled aerodromes and helicopter procedure at those aerodromes should be assessed when the test is entirely conducted at controlled aerodromes.

#### **4.3.8 Sideways and Rearward Flight**

This item is tested in conjunction with the Exercise “Hover”.

#### **4.3.9 Deceleration and Steep Turn**

The Examiner will present a scenario requiring deceleration and a steep turn to a reciprocal heading in order to avoid an obstacle. The Examiner will specify an entry heading and an altitude for the maneuvers.

It is recommended that this maneuver be conducted at 500 feet AGL, and in any case not lower than 300 feet AGL. Caution should be exercised, especially in strong wind conditions, to not lose translational lift during any turn from into the wind to downwind at a reduced airspeed.

Because a scenario is limited by the restriction of height above ground, the Examiner must exercise good judgment and care in the selection of realistic scenarios. You must ensure that the applicant fully understands the scenario that may involve avoidance of towers or weather phenomena in order to avoid confusion when assessing the item.

The applicant is expected to execute, from cruise speed and a specified altitude, a deceleration to a speed between 50 and 60 knots (or MPH) while maintaining an altitude within  $\pm 200$  feet, followed immediately by a steep turn with at least 30, but not exceeding 45°, of bank through a 180° change of heading to the reciprocal of the entry heading ( $\pm 20^\circ$ ). The applicant is expected to remain within 200 feet of the entry altitude and an indicated airspeed ranging between 40 to 70 knots (or MPH) during the turn. An airspeed within  $\pm 10$  knots (or MPH) of the speed range may be acceptable as a major error if corrected in a timely manner by the applicant. A speed deviation more than 10 knots (or MPH) above or below the speed range will be deemed to be a critical deviation. The turn will be terminated with a return to cruise speed at an altitude within  $\pm 200$  feet of the entry altitude. A good time to test this item is after Item Alternate Destinations.

#### 4.3.10 Autorotations

The engine failure will be simulated in accordance with the manufacturer's flight manual, the technique will be agreed upon during the pre-flight briefing. Prior to this exercise and before the throttle is brought to the idle position, for simulating an engine failure, it is strongly recommended, that the Examiner have assessed the engine idling capability, if it was not done during the start-up procedure. The engine failure at altitude is usually assessed after the navigation item, but can be tested at any time during the flight test. Examiners should vary where they assess this item so as not to become predictable when testing. The Examiner must ensure that a suitable landing area exists within the applicant's field of vision and within autorotational range of the helicopter, in case of a real engine failure during the simulation.

Two types of autorotations will be tested one straight in and one with a 180 degree turn and both will be initiated from cruise at a safe height but in no instance less than 500 feet AGL. The two types of autorotations will be initiated by the Examiner in a manner that evaluates range variation during autorotation. The approaches must in all cases be terminated to a hover or hover-taxi. No full-down autorotations except from Hover IGE shall be done due to many examples of accidents during examinations.

Before the applicant is allowed to demonstrate autorotations with power recovery to the hover/hover-taxi, the Examiner must select a safe landing area. The Examiner will have to determine and show the applicant the boundary of the selected touchdown zone. Those boundaries will be approximate in some cases, but they must be well outlined for the applicant to see.

**Note:** *The ATO or aircraft owner's policy regarding the minimum wind requirement for autorotations has to be respected when the wind is less than 10 knots. Where an applicant exceeds a tolerance specified in the performance criteria because of pilot error or poor technique, but recovers in a timely manner that is appropriate to the situation, the performance pertaining to that criterion may be acceptable, if safety was not compromised.*

*The performance will be deemed to be a "S", even if a correction is made, if a tolerance is exceeded by more than double the specified tolerance because of pilot error or poor technique (not due to wind/weather, turbulence or traffic conditions).*

The applicant will be required to carry out two autorotations, one of which will include a 180-degree turn, towards a rectangular pre-selected touchdown zone. A touchdown more than 100 feet of the boundaries will be deemed to be a critical deviation.

There may be factors beyond the control of the applicant that resulted in a simulated landing outside of the pre-selected touchdown zone, even if the applicant used correct approach and landing technique. In those cases, the Examiner has the discretion to consider the conditions that may have caused the deviation and mark the item appropriately.



The necessity of entering into an autorotation is not only required by a partial or complete loss of power but also by various failures of the drive systems, including the tail rotor system. Ground and weather conditions bring a number of variables to an autorotation. Consequently, it is very important that an applicant be well prepared in adapting to those variables.

Examiners too often assess autorotations based only on the final outcome stating that “It was survivable; therefore full marks should be given”. The outcome of such an autorotation maybe acceptable, but it is impossible to evaluate if the applicant could adapt to variables conditions and make the required corrections necessary for the outcome to always be acceptable or survivable.

#### **4.3.11 Pilot Navigation**

Unless the applicant encounters delays obtaining weather or other necessary information, preparation, excluding weight and balance computations, should be completed within 45 minutes. If the cross-country flight is assigned in advance, the applicant may make preliminary preparations such as initial route selection, map preparation, determination of headings, and selection of possible alternates and initial flight log entries prior to the flight test. In this case, the applicant should, after obtaining weather information, complete all final preparation, including weight and balance computations, within 45 minutes.

The applicant will be assessed on his ability to fly the helicopter to set heading over a pre-selected point or to intercept the en-route intended track. If due to operational requirements, such as vectors from ATC, the applicant is unable to start from over the pre-selected set heading point, assessment should be based on the ability to adapt to the new circumstances and the manner that the departure procedure is altered. The applicant should be allowed enough time after setting heading to determine a track error, when suitable check points are sparse.

The alternate destination item is not a test of pure navigational skills but is an assessment of the ability to proceed to an alternate destination using mental dead reckoning and geographical features such as roads, railways, rivers, etc., if they are available.

A part or all the navigation should be carried out at 500 feet AGL or a minimum safe altitude whichever is higher. A safe height above ground, even if altered during the flight, must be maintained. The applicant is expected to let the Examiner know of intentional altitude and/or heading changes. The applicant must respect the minimum altitudes over and distances from built-up areas, persons or structures.

This item may be assessed while returning to the aircraft base. As the most common navigation aid for VFR pilots is the GPS, it is recommended that the installed GPS unit be utilized for this item. If no GPS is installed, the applicant may use either a VOR receiver or an ADF.

#### **4.3.12 Minimum Safe Altitude Operations**

This item will be assessed during the navigation to an alternate destination or at any time that the applicant is required to fly at lower levels. The applicant is expected to demonstrate good judgment when encountering livestock, built-up areas, structures, lakes or rising ground while flying at low altitudes.

The applicant must stay out of the Height Velocity Diagram caution areas except when necessary for the operation.

This item provides a good opportunity to evaluate the applicant's practical knowledge, with brief oral questions, in regard to preventative techniques to be used in the event of an encounter with poor weather or whiteout conditions. If necessary, the Examiner may assess part of this item through questioning on the ground.

#### **4.3.13 Sloping Ground Operations**

The Examiner will consider all factors when selecting a landing site, especially the surface conditions and the effect of the wind. This item can be tested in conjunction with the confined areas item, or any other item that requires landing on a doubtful surface. Particular attention must be paid to the tail rotor to ensure that it is kept clear of the slope and any obstacles.

#### 4.3.14 Advanced Takeoffs and Landings

The Examiner may assess this item during the confined areas item, except for the ground effect takeoff, and the no-hover landing, which should be tested during the circuit work. You should not request a specific takeoff or landing but rather use a scenario that allows the applicant to determine the most appropriate procedure to use. You must ensure that the conditions described in the scenario are clear to the applicant. For example, you should describe surface conditions that will lead the applicant to choose a no-hover takeoff, if that is what you want the applicant to demonstrate.

#### 4.3.15 Confined Areas

It is highly recommended to use a scenario for testing this item particularly with applicants for the Commercial Pilot Licence. In most normal operations, a customer will ask to be brought to a particular work site and the helicopter pilot will determine the closest and most suitable area to land the helicopter. The scenario should be based on those particulars, as this requires the applicant to choose the confined area. In some cases, the applicant will choose an area that is very large but is a logical choice. The Examiner will then inform the applicant to ignore that choice for the needs of the test and to choose another smaller confined landing area. If more practicable, the other landing area may be chosen by the Examiner.

If the Examiner selects the confined area, the Examiner must choose a site that demands careful appraisal by the applicant and not one that is either very small or very large. The objective is to determine the applicant's ability to carry out safe and efficient confined area operations; it is not to assess how small an area an applicant can operate in. The size of the site should be large enough for the type of helicopter, considering all factors. Nevertheless, the Examiner may choose an alternate field if the applicant has doubts about the suitability of the site. It is not uncommon for an Examiner to describe a specific confined area that is understood by the applicant to be a different one. Examiners have to be very clear to ensure that their applicants are looking at the same site that they are describing. To avoid confusion, you could ask the applicant to describe the intended confined area back to you. Whenever possible, the approach should terminate in a hover over the proposed landing spot. Examiners should set realistic scenarios to assess sideways, backwards, slope landings and advanced takeoffs and landings.

The applicant must assess the power required for the type of departure planned. For this item, a scenario-based departure that simulates restricted performance capabilities may be used when utilizing a higher performance helicopter for the flight test. The Examiner should let the applicant know early enough in the departure of a situation requiring the applicant to reject the departure to enable a safe return to a hover or a landing.

**Note:** *Provided the aim of the item is accomplished in a safe and organised manner, Examiners should not be adversely influenced if the procedure used deviates slightly from their preferred technique.*

#### 4.3.16 Instrument Flying

After donning a view-limiting device, the applicant should be allowed enough time to settle down in straight and level flight, before specific maneuvers are requested. The required full panel maneuvers should be conducted before requesting limited panel work.

When assessing recovery from the unusual attitude, the Examiner should place the helicopter in the desired unusual attitude and then give control to the applicant stating loudly and clearly "You have control". One nose-up or one nose-down attitude with or without bank will be demonstrated, using full panel for private pilot applicants and using limited panel for commercial pilot applicants. Unusual attitude recoveries should be completed at a safe height or no less than 1000 feet above ground.

The flight test guide and the flight test report place Instrument Flying, as nearly the last flight test item in both documents. This is not intended to give Examiners the impression that instrument flying must come at the conclusion of the test. Examiners should consider conducting this item approximately mid-way through the test when planning their flight test profile.

#### **4.3.17 Radio Communication**

Assessment of correct radio procedures should be conducted throughout the flight test. This item can be simulated quite easily if the ATO is not near an ATC facility, and the Examiner can assess much of this item on the ground, if required. The use of a practical scenario is an excellent method to let the applicant make the decision as to which radio communication services to employ.

## CHAPTER 5 - TEST TOLERANCES

### AEROPLANE AND HELICOPTER

The nominated tolerances are extracted from MCAR-AIRCREW with some additional figures for standardisation and general guidance of examiners shown in italics.

Tolerance figures are to be used as the basis for assessment on the perfect day in an easily handled aeroplane/helicopter. Since this combination is rare, the examiner will make allowance for turbulent conditions and the handling qualities and performance of the type of aeroplane/helicopter used.

Applicants may be advised that, during the flight, they should concern themselves only with flying and operating the aeroplane/helicopter to the best of their ability and not attempt to remain within the tolerances to the detriment of smooth handling.

#### 5.1 AEROPLANE

##### *Quick reference:*

Test tolerances - Refer to MCAR-AIRCREW for changes to this quick reference table

PROFILE	LAPL & PPL Skill Test	CPL Skill Test	IR, ATPL and all type or class skill test and proficiency checks
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##### **Altitude or Height (in feet)**

Normal Flight	± 150	± 100	± 100
With simulated engine failure	± 200	± 150	± 100
Limited or partial panel		± 200	± 200
Starting go-around at decision alt/ht			+ 50 / - 0 (one engine inoperative + 100 / - 0)
Minimum descent altitude / height			+ 50 / - 0 (one engine inoperative +100/ - 0)
Circling minima			+ 100 / - 0

##### **Tracking**

On radio aids	± 10°	± 5°	± 5°
Precision approach			half scale deflection azimuth and glide path
DME arcing			± 1nm

##### **Heading**

All engines operating	± 10°	± 10°	± 5°
With simulated engine failure	± 15°	± 15°	± 10°
Limited or Partial panel		± 15°	± 15°

##### **Speeds (in knots)**

Take-off / Vr	+ 10 / - 0	+ 5 / - 0	+ 5 / - 0
Climb and approach	± 15	± 10	± 5
Vat / Vref	+ 15 / - 5	+ 5 / - 0	+ 5 / - 0
Cruise	± 15	± 10	± 5
Limited or Partial Panel		± 10	± 10
With simulated engine failure	+ 15 / - 5	+ 10 / - 5	+ 10 / - 5
Blue Line speed or Vyse / V <sub>2</sub>	± 5	± 5	± 5
Maximum airspeed error in any other regime	± 15	± 10	± 10

## 5.2 HELICOPTER

### Quick reference:

Test tolerances - Refer to MCAR-AIRCREW for changes to this quick reference table

PROFILE	LAPL & PPL Skill Test	CPL Skill Test	IR, ATPL and all type skill tests and proficiency checks
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### Altitude or Height (in feet)

Normal Flight	± 150	± 100	± 100 starting a go-around at DH + 50 MDH/MDA + 50 – 0
With simulated engine failure	± 200	± 150	
Hovering IGE	± 2		

### Heading & Tracking

Normal Flight	± 10°	± 10°	± 5°
With simulated engine failure	± 15°	± 15°	On precision approach - half scale deflection azimuth and glide path

### Speeds (in knots)

Take-off/approach	-10 / +15	± 5	All engines operating + 5 / - 0
All other regimes	± 15	± 10	With simulated engine failure +10 -5

### Ground Drift (in feet)

Take-off, hover IGE	± 3	± 3	
Landing	No sideways or backwards movement	No sideways or backwards movement	

## 5.3 FLIGHT TEST TOLERANCE FOR LAPL(S) AND OF AN SPL

The applicant should demonstrate the ability to:

- (1) operate the sailplane within its limitations;
- (2) complete all manoeuvres with smoothness and accuracy;
- (3) exercise good judgment and airmanship;
- (4) apply aeronautical knowledge;
- (5) maintain control of the sailplane at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

## 5.4 FLIGHT TEST TOLERANCE FOR LAPL (B) AND A BPL

The applicant should demonstrate the ability to:

- (1) operate the balloon within its limitations;
- (2) complete all manoeuvres with smoothness and accuracy;
- (3) exercise good judgment and airmanship;
- (4) apply aeronautical knowledge;
- (5) maintain control of the balloon at all times in such a manner that the successful outcome of a procedure or manoeuvre is never seriously in doubt.

### 5.5 FLIGHT TEST TOLERANCES FOR PPL (AS)

The following limits should apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the airship used.

Height:	
normal flight	±200 ft
simulated major emergency	±300 ft
Tracking on radio aids:	±15 °
Heading:	
normal flight	±15 °
simulated major emergency	±20 °

### 5.7 FLIGHT TEST TOLERANCES FOR CPL (AS)

The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the airship used.

Height	
normal flight	± 100 feet
simulated major emergency	± 150 feet
Tracking on radio aids	± 10°
Heading	
normal flight	± 10°
simulated major emergency	± 15°

### 5.8 FLIGHT TEST TOLERANCE FOR POWERED-LIFT AIRCRAFT

#### (a) IFR flight limits:

Height:	
Generally	± 100 feet
Starting a go-around at decision height/altitude	+ 50 feet/- 0 feet
Minimum descent height/altitude	+ 50 feet/- 0 feet
Tracking:	
On radio aids	± 5°
Precision approach	half scale deflection, azimuth and glide path
Heading:	
Normal operations	± 5°
Abnormal operations/emergencies	± 10°
Speed:	
Generally	± 10 knots
With simulated engine failure	+ 10 knots/- 5 knots

#### (b) VFR flight limits:

Height:	
Generally	± 100 feet
Heading:	
Normal operations	± 5°
Abnormal operations/emergencies	± 10°
Speed:	
Generally	± 10 knots
With simulated engine failure	+ 10 knots/- 5 knots
Ground drift:	
T.O. hover I.G.E.	± 3 feet
Landing	± 2 feet (with 0 feet rearward or lateral flight)

## CHAPTER 6 – LIGHT AIRCRAFT PILOT LICENCE AND PRIVATE PILOT LICENCE

A guide to the structure of the PPL skill test for the training of the FE for the LAPL and PPL. The following comments and information are offered to assist the Examiner to conduct a thorough flight test. These suggestions will aid in making accurate assessments of the applicant’s skill and knowledge. All items of the skill test should be performed utilising the Flight Test Standards of Module 3/4 and Tolerances of Module 5.

### 6.1 Foreword

Every item of every section is to be assessed by the FE. Some items must be assessed through a dedicated exercise, for instance, item 2.g. requires an airwork. Other items are assessed without setting a particular drill because:

1. they can be assessed through the normal situations of the flight. For instance, items 2.c. (climbing turns and levelling off) have a chance to be observable within the very first minutes of the flight.
2. they are assessed through the whole flight, or a portion of it. For instance, items 2.a or 3.h (ATC liaison) or item 3.b maintaining altitude, heading and speed.

### 6.2 Aeroplane

#### Quick Reference:

MCAR reference:	AMC1 FCL.1220; FCL.125 // AMC1 FCL.125 // AMC2 FCL.125 // AMC1 FCL125; FCL.235 // AMC2 FCL.125; FCL.235
Who can test:	FE, provided that they are individually authorised for this role  Examiners will not test applicants to whom they have given flight instruction for that licence, (Progress and Safety Checks do not count as flight instruction). When an attempt is taken as two flights both parts are to be conducted by the same examiner.
Form used:	CAA Forms

Every item of every section is to be assessed by the FE.

Some items must be assessed through a dedicated exercise, for instance, item 2.h.i (stalling) requires an airwork exercise as a medium. Other items are assessed without setting a particular drill because:

- they can be assessed through the normal situations of the flight. For instance, items 2.c.ii and 2.c.iii (climbing turns and levelling off) have a chance to be observable within the very first minutes of the flight.
- they are assessed through the whole flight, or a portion of it. For instance, items 2.a or 3.h (ATC liaison) or item 3.b maintaining altitude, heading and speed.

### 6.3 Single Engine – Aeroplane/helicopter

#### 6.3.1 Aeroplane/helicopter Familiarisation and Preparation for Flight

##### 6.3.1.1 Documents and Airworthiness.

- a. Ensure that questions asked are relative to the aeroplane/helicopter being used for the flight test.

#### 6.3.1.2 Aeroplane/helicopter Performance

- a. The applicant may use the Pilot Operating Handbook to determine information other than essential performance speeds listed in the flight test standards as memory items.
- b. Record the answers given to questions regarding the best angle of climb speed, best rate of climb speed, stall speed in the landing configuration and manoeuvring speed so that during the flight test the actual speeds flown in the appropriate exercises may be compared. Questions relating to the Pilot Operating Handbook should be “operational” questions, particularly if the conditions of temperature wind strength; etc. existing at the time of flight test can be utilised.

#### 6.3.1.3 Mass and Balance - Loading.

- a. Make this a practical exercise and relate the mass and balance problem to the proposed cross-country flight. The applicant should also be asked to correct an out of CG situation, and questioned to determine understanding of extreme CG locations and the resulting effect on aeroplane/helicopter handling and performance.
- b. Should there be any doubt with regard to the completed mass and balance form presented by an applicant, the level of knowledge should be determined by thorough questioning in this area.

#### 6.3.1.4 Pre-Flight Inspection.

After the applicant has completed the pre-flight inspection a few questions relating to the flight test aeroplane/helicopter should be asked. For example, the effect of the carburettor intake filters being blocked or its location and, subsequently, determining whether the applicant knows the function of all intakes, screens and filters.

#### 6.3.1.5 Engine Starting and Run-up, Use of Briefing/checklists.

- a. Check to see if the applicant uses the briefing/checklist provided in the aeroplane/helicopter. If the examiner does not agree with the content of the briefing/checklist, the applicant should not be penalised. This would be an item for the examiner to discuss with the training unit or establishment, and if necessary CAA.
- b. The check carried out by an applicant should cover at least the items mentioned in the appropriate Pilot Operating Handbook. The applicant should be questioned at this time to determine what action would be taken if the checks revealed a problem, (e.g. excessive magneto-drop, instruments not indicating when mixture or carburettor heat controls, etc. are selected and/or reset).
- c. The applicant is expected to conduct the oral passenger safety briefing at this time.

#### 6.3.1.6 Ancillary Controls

The applicant should be knowledgeable concerning the use of the carburettor heat, mixture control and any other ancillary controls fitted to the aeroplane/helicopter used for the flight test. Leaning procedures should be examined during the flight, or tested orally. Use of the mixture control to smooth out rough running following the application and removal of carburettor heat in flight should be assessed if such conditions exist, or be examined by questioning.

#### 6.3.1.7 Taxiing

If the test is conducted under zero or light wind conditions, it is appropriate that, while taxiing, the applicant be asked to demonstrate how the controls should be held under varying wind conditions, for example cross wind, or a wind blowing from a front or rear quarter.



#### 6.3.1.8 *Steep Turn*

For the steep turn, remember that the applicant is being assessed on 4 parameters: altitude, airspeed, and angle of bank and recovery heading. Therefore, your request must be specific in all four areas to avoid confusion.

The reference point for resuming straight flight should be narrow but prominent, and clearly visible. The examiner must take time to ensure that the applicant has in mind the same reference point in order to avoid inaccurate assessment.

#### 6.3.1.9 *Slow Flight*

The aim of this exercise is to determine that the applicant can establish slow flight, control the aeroplane/helicopter and return to normal airspeeds.

The applicant must be able to set the aeroplane in slow flight and change heading with appropriate angle of bank and then resume normal flight, at all times keeping control (bank, speed, altitude, slip). Failure to prevent a stall must be assessed as a fail.

#### 6.3.1.10 *Stall*

The examiner must be aware of the manufacturer's recommendation in this regard for the type of aeroplane to be used on the flight test. The FCL requirement is for a clean stall with a minimum loss of altitude.

#### 6.3.1.11 *Take-off*

- a. It is suggested that the examiner does not request a specific take-off; rather it is recommended a scenario be used so that the applicant is required to decide what procedure to use.
- b. Aircraft configuration and airspeeds utilised should be those specified in the Pilot Operating Handbook.

#### 6.3.1.12 *Circuit*

If possible, it is recommended that both controlled and uncontrolled aerodromes be used during the test if they are conveniently available in order to check that the appropriate procedures are correctly utilised.

#### 6.3.1.13 *Approach and Landing*

In assessing the ability to land within a pre-determined touchdown zone it is not intended that examiners turn this item into a spot landing exercise, rather the applicant's ability to land within a specified portion of the runway is to be assessed. The overshoot will be assessed in conjunction with this exercise.

#### 6.3.1.14 *Simulated Precautionary Landing*

When requesting this exercise be specific when outlining the reasons requiring a landing; if it is due to simulated weather conditions, then clearly specify the simulated ceiling, visibility, etc., and do not alter them during the procedure.

Remember, the aim of the exercise is to carry out the procedures for safe landing in a suitable area and provided the procedure used is organised and logical and the aircraft configuration is as stipulated in the Pilot Operating Handbook, examiners should not be adversely influenced if the procedure varies slightly from their own procedure. If a suitable aerodrome is available, it is desirable to ask the applicant to carry the approach through to a landing. This will enable the examiner to assess ability to carry out a short or soft field landing with this exercise.

#### 6.3.1.15 *Simulated Forced Landing*

The engine failure will be simulated in accordance with the method recommended by the manufacturer. Engine failure should be simulated from sufficient height to permit the applicant time to clearly demonstrate his knowledge of procedures and skill. The practise should be given without advance warning from the examiner, however, the examiner should ensure that some choice of landing area exists within the field of vision of the applicant and within gliding range of the aircraft. Provided the aim of the exercise is accomplished in an organised manner, the examiner should not be adversely influenced if the procedure used varies slightly from the examiner's own procedure.

The examiner will take care of the engine during the descent so as to ensure safety in the go around. The practice of leaving some power on and achieving a normal descent angle and airspeed by using flap is acceptable. Examiners should determine the applicant's intention with regard to the procedure to be used during this exercise during the pre-flight briefing.

### 6.3.2 *Enroute Navigation*

#### 6.3.2.1 Pre-flight Planning Procedures

This section clarifies the description of what is expected of the applicant, and the Acceptable Performance has been amended and itemised rather than just a short global statement of the criteria.

The applicant will:

- a. Select a safe and-efficient route complying with air-regulation.
- b. Obtain and interpret weather information
- c. Determine the appropriate departure procedure
- d. Obtain operational information re enroute and destination aerodromes
- e. Determine the acceptability of the departure and destination runways under existing or forecast conditions

When assigning the route, examiners should try to select a destination that will provide the applicant—with suitable terrain and sufficient enroute checkpoints.

The applicant's completed calculations should be verified for accuracy.

#### 6.3.2.2 Departure Procedure

Applicants are not restricted to just one method of departure. They have the option of determining the appropriate departure procedure to use for the given location.

The assessment should be based on ability to adapt to the new circumstances and the manner in which departure procedure is altered.

#### 6.3.2.3 Enroute Procedure

With respect to time, if no suitable checkpoints are available, extra time should be allowed to enable the applicant to determine if a track error exists. Proper selection of the assigned route should prevent this situation.

#### 6.3.2.4 Diversion to an Alternate

When examiners choose to carry out the diversion after a series of other flight test manoeuvres, the examiner must allow time, and if required, be of some assistance while the applicant arranges the chart and determines their exact location. Following this procedure the examiner will request the diversion.

It will not always be feasible to test the diversion at low level, but when examiners do the test in this manner they must consider the following:

- a. Regulations, built up areas, etc.
- b. Safety considerations, suitability of the area, altitude, obstructions
- c. Annoyance to people or livestock, and
- d. Examiners will not use this exercise to set the applicant up for a contravention of the regulations.

When tested at low level (reasonable height) the selected destination should not require the applicant to over-fly populated areas enroute. Remember this is not a test of pure navigational skills but is an assessment of ability to proceed to an alternate using mental dead reckoning and natural geographic features such as roads, railway tracks etc., if they are available. Rulers, protractors, and computers will not be used for this procedure.

With respect to the estimated time of arrival, and the actual time of arrival at the alternate, no hard numbers have been established as a criterion. Examiners may accept an estimated time of arrival for this exercise which is reasonable, and which would ensure that the diversion could be conducted as planned.

#### *6.3.2.5 Instrument Flying and Use of Radio Navigation Aids*

The applicant will perform a basic instrument check (180 turn in simulated IMC)

### **6.3.3 Emergency Procedures**

- a. If the flight test aeroplane is one with which the examiner is not thoroughly familiar the Pilot Operating Handbook should be studied before asking the applicant to demonstrate the ability to deal with various simulated emergencies.
- b. It is not intended that all possible emergency procedures be assessed with each and every applicant. The examiners should request two emergency procedures in the testing of this exercise, one while airborne and the other with the aeroplane on the ground. Examiners should use a random sampling system, varying the emergency procedures requested to prevent the examiners flight test from becoming known to the applicants, and to ensure all systems and emergency procedures have been covered in training.
- c. One method found very effective by many examiners, and one, which you may wish to use when assessing the emergency on the ground, is to assess this exercise either prior to engine start-up or upon returning to the apron, when the engine is shut down. With controls in the normal shutdown position, the examiner places the throttle, mixture, related switches, and the various ancillary controls etc., in the position they would normally be for an engine running at cruise power. The examiner will then describe to the applicant an emergency situation such as an engine fire. The examiner may then make an assessment based on how the applicant actually positions the appropriate controls, switches or valves associated with the drill rather than assessing only a verbal statement of how things should be done. Utilising this method should preclude an applicant from receiving a favourable assessment based on the ability to recite an emergency drill when they in fact have no understanding or appreciation of the action the drill requires.
- d. Examiners should not compound the requested emergencies, nor request so many that it becomes an exercise in endurance until such time as the applicant gets a procedure wrong.

### **6.3.4 Radio Communications**

- a. The demonstration of correct radio procedures throughout the whole flight requires the examiner to make the assessment of this exercise only when the flight has been completed.
- b. Assessment is to be based upon the applicant's ability to use proper radio procedures, respond to and act upon ATC clearances and instructions and obtain weather information and update other flight related data. Where necessary, this exercise can be simulated by the examiner if the flight test is not conducted near an ATC facility. If required the examiner can assess much of this exercise on the ground. The use of a practical scenario is an excellent method to let the applicant make the decision as to which radio communication services to employ.

## 6.4 Helicopter

### Quick reference:

	<b>LAPL/PPL(H) SKILL TEST</b>
MCAR reference:	Part FCL Subpart A & AMC2.FCL.125 (LAPL) Subpart B & AMC.FCL.110H (PPL) AMC2 FCL.235 (Content of Skill Test)
Who can test:	FE (LAPL) - LAPL only, FE (PPL), FE (CPL). The SFE is to nominate an Examiner for the third and subsequent Series. <input type="checkbox"/> When an attempt is taken as two flights both the en-route procedure and general handling are to be conducted by the same Examiner
Form used:	CAA Form
Test format:	Skill Test as described in AMC2.FCL235. The test may be conducted in two parts on the same day by the same Examiner. If the test is unable to be completed, the test form shall be marked 'incomplete'. If the incomplete test is completed on a subsequent date then a new Examiners report form shall be used.
Notes:	<b>Training</b> <input type="checkbox"/> Applicants must have completed the relevant syllabus of training as prescribed by Part FCL and present evidence of completion of all the training and a recommendation from the ATO for the test. <input type="checkbox"/> If the PPL test is to be conducted on a Multi-Engine aircraft then applicants must comply with the Class/type rating requirements for ME aircraft at Part FCL Subpart H.
Revalidation:	Skill test must be started within 6 months of completing flight instruction and subsequent tests must be completed within 6 months of the first attempt.

**CHAPTER 7 – COMMERCIAL PILOT LICENCE (AEROPLANE AND HELICOPTER)  
 CPL (A/H)**

A guide for the examiner on the skill test for the CPL (A) and CPL (H)

All items of the skill test should be performed utilising the Flight Test Standards of Chapter 3/4 and Tolerances of Chapter 5.

**7.1 Aeroplane**

**Quick Reference:**

MCAR reference:	<i>Appendix 4 to PART-FCL</i>
Who can test:	FE provided that they are individually authorised for this role  Examiners will not test applicants to whom they have given flight instruction for that licence, (Progress and Safety Checks do not count as flight instruction). When an attempt is taken as two flights; both parts are to be conducted by the same examiner.
Form used:	CAA Forms

**7.2 Expanded Guidance**

Applicants will be assessed on all aspects of the aeroplane operation. Sound basic handling skills are essential as well as airmanship, navigation, instrument flying, correct R/T phraseology, cockpit and overall flight management. The Examiner may elect to evaluate certain aspects by oral questioning. The CPL Skill Test is divided into six main sections.

- Section 1 Pre-flight operations and departure
- Section 2 General Air work
- Section 3 Enroute procedures
- Section 4 Approach and landing procedures.
- Section 5 Abnormal and emergency procedures
- Section 6 Simulated asymmetric flight and relevant class/type items

All sections of the test are to be completed in the course of one flight. The sequence of sections may vary depending on circumstances and the Examiner’s briefing will include the expected profile. Examiners are responsible for ensuring an efficient test but applicants must remain adaptable, particularly if weather conditions, ATC 'slot' times etc., subsequently dictate a different scenario during the flight.

GM1 FCL.10515 requires that the duration of the flight is to be at least 90 minutes. Section 3 normally takes about 1 hour and 15 minutes, and Sections 2 and 4 combined about 1 hour. Section 5 may be combined, at the discretion of the Examiner, with Sections 1 through 4, and Section 6, where applicable, may be combined with Section 1 through 5. The whole test could, therefore, take up to 2 hours and 30 minutes.

The CPL Skill Test is very demanding. It is appreciated that even the most 'professional' or 'talented' pilots can make mistakes. This does not necessarily mean that a failure should result.

The following notes reflect the style and sequence of the briefing that the applicant may expect to hear. However, the examiner may make variations in the delivery of the briefing and may have to modify the sequence in which items are briefed and flown.

From pre-flight to post flight the applicant will be assessed on his general flight management and flying skills.

### 7.3 Section 1

The applicant will be expected to carry out a safe and practical inspection of the aeroplane prior to flight, and must be aware of the servicing operations that he is entitled to carry out on the aeroplane. The applicant will be expected to proceed with the checks at a practical pace and with reference to the checklist. Where visual checks are made these should be described to the Examiner only if requested. Pre-flight checks of the radio and navigation equipment should include all the equipment which the applicant proposes to use during the flight. The Examiner must be briefed, as a passenger, on the position and method of the use of emergency exits, safety belts, safety harnesses, oxygen equipment, life jackets, and all other devices intended for use by passengers in the case of emergency. The applicant must instruct the Examiner on the actions he should take in the event of an emergency. Passenger briefing cards are acceptable but the examiner may ask questions.

The applicant must be prepared to deal with actual or simulated Abnormal or Emergency Operations at any stage. The Examiner may simulate, for example, an engine fire during start up.

The applicant is expected to take account of all factors that may affect a safe take-off and departure

The departure should comply with any instructions given by ATC.

### 7.4 Section 3

Section 3 is usually flown after Departure to ensure an efficient flow to the flight. During this section of the flight the aeroplane is assumed to be on a passenger carrying operation under Visual Flight Rules. When the aeroplane has achieved cruising altitude and is on heading for the turning point, the applicant should confirm to the Examiner the heading, altitude, and ETA, thereafter advising any changes, (for example, "2 minutes late at my halfway point - the revised ETA is now. . ." etc.).

Corrections to heading or ETA will be calculated rather than based on track crawling, impulse or inspiration. The applicant is expected to navigate by visual positioning in a practical way, not to feature crawl. Numerous heading or altitude changes that are the result of poor flying may constitute a fail in this section. The applicant is expected to make changes to his heading and ETA in order to correct deviations from his plan.

Radio navigation aids may not be used during one leg of the en-route section. In order to assess applicants ability to navigate by visual reference;

At some stage the applicant will be instructed to carry out a diversion from his planned track to an alternative location. This is not an emergency procedure. A prominent location will be pin-pointed on the applicant's chart. The applicant may be asked to commence the diversion at or before a planned turning point. The applicant should nominate his heading, altitude and ETA for the diversion.

At some stage the Examiner will simulate poor weather by simulating IMC. The applicant should take appropriate action to establish safe flight.

During the time under simulated IMC the applicant should continue to navigate and establish the aeroplane's geographical position by using radio navigation techniques. The information may only be obtained by VDF, VOR, DME, or ADF, GPS should not be used as a *primary* navigation aid. When the examiner decides to return to VMC the applicant will be expected to fix his position visually and continue to navigate to the diversion point using visual and radio aids fixing as required. GPS (raw data latitude and longitude only) and RNAV may be used as aids to visual navigation, but use of moving map displays is not acceptable.

Demonstration of radio aid tracking will be required at some stage; the Examiner will decide when to ask for this exercise to ensure efficient use of time and airspace this exercises may be combined with another section. He will nominate the NDB or VOR to be used and the track to be intercepted.

Throughout this section the applicant will be expected to demonstrate a satisfactory standard of flight

## 7.5 Section 2

Throughout this section the Examiner will be responsible for navigation and ATC liaison, but the applicant will be responsible for look out and collision avoidance (except when IMC is simulated). The following items will be assessed in the visual and instrument sub-sections of Section 2.

### 7.5.1 Visual Air work

Control of the aeroplane by external visual reference including:

- a. Straight and level flight at various airspeeds and configurations. Climbing and descending at various speeds and rates which may include best angle ( $V_x$ ) and best rate ( $V_y$ ).
- b. Flight at critically low airspeeds and slow flight manoeuvres.
- c. Turns, including turns in landing configuration; level steep turns at not less than  $45^\circ$  bank; steep turns in a gliding configuration.
- d. Flight at critically high airspeeds (approaching  $V_{NE}$ ) and recognition of, and recovery from, spiral dives. These manoeuvres are often combined; the Examiner may put the aeroplane into a steep dive or a spiral dive with speed increasing rapidly and hand control to the applicant to initiate appropriate recovery action either to straight and level flight or into a climb.
- e. Recognition and recovery from stalls:
  - Normally the first stall will be a clean, fully developed stall entering from straight and level flight, with the throttle(s) closed.
  - The second stall will be from an approach configuration, (flap setting and gear) and appropriate power. The stall should be initiated from a turn (level or descending with about  $20^\circ$  AOB) and the applicant should recover at the first symptom of the approaching stall.
  - The third stall will be in a landing configuration and appropriate set power. The stall should be initiated from straight flight as if established on final approach to land (i.e. not climbing); the applicant must recover at the first symptom of the approaching stall.
  - All recoveries will be made with the minimum loss of height and returning to a clean climb, wings level.

### 7.5.2 Instrument Air work

Control of the aeroplane by sole reference to instruments including:

#### 7.5.3 Full Panel:

Level flight in the cruise configuration. Level turns at rate one or bank angles up to  $30^\circ$ . Climbing and descending turns at given rates and speeds.

#### 7.5.4 Limited Panel:

- Flight reference by turn and slip/turn coordinator indicator, standby compass and performance instruments only
- Straight and level flight at given speeds.
- Level turns onto given headings at rate one using timed or compass turns.
- Climb and Descend at cruise speed in straight flight.
- Recovery from unusual attitudes. (Recovery should be made to trimmed straight and level flight with minimum loss of height).

## 7.6 Section 4

This section may be flown at the base aerodrome or at an alternate aerodrome nominated by the examiner before flight. Applicants will be expected to carry out a safe and expeditious join to the circuit. This involves entry to the most convenient point in the circuit with the aeroplane in the appropriate configuration and at the correct speed. Applicants will be expected to carry out a number of approaches and landings (usually ‘touch and go’ landings) involving the following:

- a. Normal landing.
- b. Cross wind landing (when practical).
- c. Go around from a low height/altitude.
- d. Short field or Performance landing. This may be combined with a simulated bad visibility/low level circuit. In order to assess this exercise the Examiner may limit the amount of runway available.
- e. Approach and landing without the use of power (glide approach). The examiner may limit the amount of runway available.
- f. Approach and landing without the use of flaps (flapless).
- g. Post flight action. The applicant will be responsible for taxiing and parking, after landing and shut down checks, and the completion of aeroplane documentation.

Throughout this section the applicant is also responsible for ATC liaison, altimetry and lookout

## 7.7 Section 5

The items of this section may be combined with Sections 1 through 4. The Examiner will simulate an abnormal or emergency situation; the applicant is expected to carry out the appropriate emergency actions. If drills involve the operation of fuel cocks, fuel shut off valves, mixture controls and any critical engine control, operations should be simulated by "touch actions" only. Emergency radio calls should be made aloud but not transmitted. Applicants should not assume that any simulated emergency is complete until told by the Examiner.

## 7.8 Section 6

Applicants attempting the Skill Test in a multi-engine aeroplane (not centre-line thrust) will be expected to fly the exercises in Section 6. At a safe height after take-off the Examiner will simulate an engine failure by closing one of the throttles. The applicant will be expected to retain control of the aeroplane, identify the ‘failed’ engine and carry out the appropriate engine shut down and propeller feathering procedures; using touch drills. On completion of these drills, because the applicant’s actions would have resulted in the engine security and propeller pitch being set as required, the Examiner or the safety pilot will be responsible for setting zero thrust and the management of the (simulated) failed engine.

The applicant will be expected to carry out a circuit to go-around under asymmetric power and an asymmetric approach to land. This section may, at the discretion of the Examiner, be combined with Sections 4 and 5 of the flight.

Applicants who are required to fly Section 6 will not be expected to fly the steep gliding turns in Section 2, the glide approach in Section 4 or the practice forced landing and engine failure at section 5.

### 7.8.1 Flight Simulator or Flight & Navigation Procedure Trainer

The following items may be performed in an (FNPT II):

- a. Air work (Section 2) - items c and e (iv)
- b. Abnormal and Emergency Procedures (Section 5) - all items
- c. Simulated Asymmetric Flying (Section 6) - all items

The simulator or FNPT II must be approved for the purpose and of the same aeroplane type/class as used for the remainder of the skill test.



## 7.9 General Note

In situations when the Examiner does not occupy a pilot seat he is responsible for briefing the safety pilot (Pilot in Command) on his duties throughout the test

## 7.10 Helicopter

### Quick reference:

	<b>CPL(H) SKILL TEST</b>
MCAR reference:	Part FCL Subpart D and Appendix 4
Who can test:	FE (CPL) The SFE is to nominate an Examiner for the third and subsequent Series. <input type="checkbox"/> When an attempt is taken as two flights both the en-route procedure and general handling are to be conducted by the same Examiner.
Form used:	CAA Form
Test format:	Skill Test as described in App.4 to PART-FCL. The test may be conducted in two parts on the same day by the same Examiner. If the test is unable to be completed, the test form shall be marked 'incomplete'. If the incomplete test is completed on a subsequent date then a new Examiners report form shall be used. <input type="checkbox"/> If the applicant does not already hold the rating then the TK oral questions for SEH type ratings are required to be assessed and recorded (see Rating Skill Test Table/Briefing).
Form guidance:	Failure of a second attempt requires the Form to be sent to CAA who may prescribe mandatory training. Following failure of a second attempt CAA may nominate another examiner for subsequent attempts. Countersign applicant's logbook if requested.
Notes:	<b>Training</b> <input type="checkbox"/> Applicants must have completed the relevant syllabus of training as prescribed by Part FCL and present evidence of completion of all the training and a recommendation from the ATO for the test. <input type="checkbox"/> If the test is to be conducted on a Multi-Engine aircraft then applicants must comply with the Class/type rating requirements for ME aircraft at Part FCL Subpart H.
Validity:	All relevant sections of the test must be completed within 6 months.

## CHAPTER 8 - INSTRUMENT RATING - IR (AEROPLANE AND HELICOPTER)

A guide to the structure of the IR skill test for the IRE and proficiency checks for the IRE and CRE

All items of the skill test should be performed utilising the Flight Test Standards of Chapter 3/4 and Tolerances of Chapter 5.

### 8.1 Aeroplane

#### Quick Reference:

Table 4 A	IR SKILL TEST
MCAR reference:	Appendix 7 to Part-FCL
Who can test:	IRE (an IRE or suitably authorised CRE may conduct the IR revalidation or renewal proficiency check)
Form used:	CAA Forms

### 8.2 General

The skill test and proficiency check will be performed according MCAR-AIRCREW Appendix 6 to Part-FCL

The skill test form is divided into six sections:

- Section 1 Pre-flight operations and departure
- Section 2 General handling
- Section 3 En-route procedures
- Section 4 Precision approach procedures
- Section 5 Non- precision approach procedures
- Section 6 Simulated asymmetric flight (if applicable)

### 8.3 Test Conduct

#### ***GMI FCL.1015***

*The duration of the flight will be at least one hour*

The duration of the total test/check might be at least 2 hours. All sections of the test/check are to be completed in the course of the flight. The sequence of the sections may vary, depending of the circumstances and the briefing of the examiner.

### 8.4 Weather Minima

The weather minima for conducting the practical flight test/check for an IR (A) will be determined by the NAA.

### 8.5 The Aeroplane

The aeroplane for the IR –Skill tests/Proficiency checks will be suitably equipped to simulate instrument meteorological conditions and suitably equipped for instrument flight training.

## **8.6 The composition of the flight crew and role of the examiner/safety pilot**

An applicant will fly the aeroplane/helicopter from a position where the pilot-in-command functions can be performed and to carry out the test as if there is no other crew member. The FE will take no part in the operation of the aeroplane/helicopter, except when intervention is necessary in the interests of safety or to avoid unacceptable delay to other traffic. Whenever the examiner or another pilot functions as a co-pilot during the test, the privileges of the instrument rating will be restricted to multi-pilot operations. This restriction may be removed by the applicant carrying out another initial instrument rating skill test acting as if there was no other crew member on a single-pilot aeroplane/helicopter. Responsibility for the flight will be allocated in accordance with national regulations.

The minimum flight crew necessary for the conduct of skill tests conducted as single pilot operations must comprise of the applicant, the examiner and, if applicable, a Safety Pilot. The applicant will fly the aeroplane and will be acting as the Pilot in Command. If a safety pilot is required he/she will be an instructor who is qualified to act as Pilot in Command on the aeroplane type or class being used for the test and will be responsible as the Pilot in Command for the safety and general operation of the aeroplane.

## **8.7 The Briefings**

The Pre-flight briefing should be according to Chapter 2 of this DEM. If the examiner will not occupy a pilot seat during the test/check he must ensure that the Safety Pilot is briefed on the required methods of:

- a. simulation of instrument conditions
- b. simulation of an engine failure
- c. removal of radio aid information when required
- d. actions to take in case of an actual emergency
- e. use of the radio if required to perform the test
- f. any other item to be determined by the examiner

The de-briefing and the assessment of the test will be according to Chapter 2 of this DEM.

## **8.8 The Skill test**

The flight test items of the Skill Test/Proficiency check has to be performed according to the Flight Test Standards in Chapter 3.

## **8.9 Test Tolerances**

The Test Tolerances of Chapter 5 are used throughout the whole flight test. However, as the circumstances of each test/check conducted by an examiner may vary, it is also important that an examiner's test/check assessment takes into account any adverse condition(s) encountered during the test/check.

### 8.10 Helicopter

**Quick reference:**

	<b>IR(H) SKILL TEST</b>
MCAR reference:	<i>Part FCL Subpart G and Appendix 7</i>
Who can test:	IRE(H)
Test format:	Complete the schedule shown on the form in Appendix 7 to PART-FCL
Notes:	Where RNAV is available this may be used as briefed by the IRE (H).
	<b>IR(H) REVALIDATION</b>
MCAR reference:	<i>Part FCL Subpart H and Appendix 9</i>
Revalidation:	12 months validity The revalidation may be flown within 3 months of the due date, the new validity being 12 months from that due date.
Who can test:	TRE(H) with IRE(H) privileges

## Chapter 9 – TYPE AND CLASS RATINGS (Aeroplane and helicopter)

A guide to the structure of the skill test for rating issue and the revalidation proficiency check for the TRE and CRE

All items of the proficiency check test should be performed utilising the Flight Test Standards of Chapter 3/4 and Tolerances of Chapter 5.

### 9.1 Aeroplane

#### Quick Reference:

MCAR reference:	Appendix 9 to Part-FCL
Who can test:	TRE, CRE, SFE; FE for SP class/type rating, except for SP high performance complex aeroplanes
Form used:	CAA Form

### 9.2 SPA

*Appendix 9 to Part-FCL*

#### *CONTENT OF THE TRAINING, SKILL TEST/PROFICIENCY CHECK*

- Unless otherwise determined in the operational suitability data established in accordance with Part-21, the syllabus of flight instruction shall comply with this Appendix. The syllabus may be reduced to give credit for previous experience on similar aircraft types, as determined in the operational suitability data established in accordance with Part-21.*
- Except in the case of skill tests for the issue of an ATPL, when so defined in the operational suitability data established in accordance with Part-21 for the specific type, credit may be given for skill test items common to other types or variants where the pilot is qualified.*

### 9.3 Expanded guidance

Profiles are to be planned to make efficient use of time and airspace. The test and check profiles are not dissimilar to those used for initial skill tests (PPL, CPL and IR). However, the examiner should avoid wasting flight time beyond that required for the applicant to display the required skills and should generally expect to be able to apply a practical approach to the test. The requirement of skills tests is for the applicant to demonstrate his knowledge and handling of procedures in a new environment. Proficiency checks should display the practical experience of the applicant with his performance of the required items assessed against safe standards of aeroplane handling and flight management.

Test standards for each item of test/check are shown at Chapter 3.

The accuracy tolerances are shown at Chapter 5.

#### **GMI FCL.1015**

*An Examiner should plan a test/check flight so that the flight time in an aeroplane or ground time in an approved STD is not less than 60 minutes.*

#### 9.4 Synthetic Training Devices (STDs)

Items which may be trained and tested in an STD are identified in MCAR-AIRCREW requirements.

STDs used are to have been approved for the purpose by CAA. The device can be identified by the examiner through its certificate, a unique authorisation number and validity.

#### 9.5 MPA

MPA skill test and proficiency check the profiles may be conducted using the guidance in Chapter 10

#### 9.6 Helicopters

##### Quick Reference:

	<b>SPH/MPH TYPE SKILL TEST</b>
MCAR reference:	<i>Part FCL Subpart H and Appendix 9</i>
Who can test:	FE CPL (H), FE PPL (H), TRE (H) as authorised. Following failure of the second series notify the SFE. The SFE is to nominate an Examiner for the third and subsequent Series
Form used:	CAA Forms
Test format:	<ul style="list-style-type: none"> <li><input type="checkbox"/> Note the Examiner is required to exercise judgment in conducting the test/check given particular circumstances or aircraft types. The non-mandatory items on the form give the Examiner room to adjust the flight test to suit operational conditions or helicopter type. Those items that are not labeled 'M' (for mandatory) do not mean that the item must always be ignored. It is not satisfactory simply to fly the basic minimum profile, without assessing the pilot's ability to operate those aircraft systems that are necessary for the safe operation of the aircraft type, in both normal and abnormal conditions.</li> <li><input type="checkbox"/> If the test is to be completed on a SHE, the Examiner is required to conduct an oral TK test for which the applicant requires 75% to pass.</li> </ul>
Notes:	<p><b>Training</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Applicants must have completed the relevant syllabus of training as prescribed by Part FCL and present evidence of completion of all the training and a recommendation from the ATO for the test.</li> <li><input type="checkbox"/> If the test is to be conducted for a first MEH type, then applicants must meet the requirements of MCAR FCL 720.H.</li> </ul> <p><b>Revalidate by Experience:</b> A pilot who successfully completes an LST for an additional type can achieve revalidation for other types in accordance with below:</p> <p><b>SEP Types</b> as listed in AMC1 FCL.740.H(a)(3) may be revalidated by conducting the check/test on one of the applicable types, provided the applicant has completed at least 2 hours as PIC in the validity period on each of the other types to be revalidated.</p> <p><b>SET Types</b> of a maximum AUM of 3175 kg may be revalidated by conducting the check/test on one of the applicable types held, provided the applicant has:</p> <ul style="list-style-type: none"> <li>(i) Completed at least 300 hours as PIC of helicopters; and</li> <li>(ii) Completed 15 hours on each of the types held;</li> <li>(iii) Completed at least 2 hours as PIC flight time on each of the other type(s) during the validity period.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>(i) The Examiner shall ensure that there is a rotation of types tested on.</li> <li>(ii) The licence endorsement for the type ratings revalidated by experience shall show EXP in the date of test and the same validity expiry date as that on which the LPC was completed.</li> </ul>

	<b>SPH/MPH TYPE /IR PROFICIENCY CHECK; REVALIDATION/RENEWAL</b>
MCAR reference:	<i>Part-FCL Subpart H and Appendix 9</i>
Form used:	CAA Forms
Who can test:	FE CPL (H), FE PPL (H), TRE (H) as authorized. The SFE is to nominate an Examiner for the third and subsequent Series.
Test Format	The Examiner is required to exercise judgment in conducting the test/check given particular circumstances or aircraft types. The non-mandatory items on the form give the Examiner room to adjust the flight test to suit operational conditions or helicopter type. Those items that are not labeled 'M' (for mandatory) do not mean that the item must always be ignored. It is not satisfactory simply to fly the basic minimum profile, without assessing the pilot's ability to operate those aircraft systems that are necessary for the safe operation of the aircraft type, in both normal and abnormal conditions.
Notes:	<p><b>Revalidation</b>                  A proficiency checks can be flown up to 3 months before the expiry date with no loss to the original expiry date, provided the applicant has completed 2 hours as a pilot (which may include the duration of the LPC) have been completed on the type in the 12 months preceding the expiry. The licence can be signed by the FE to the end of the calendar month for the new expiry date.</p> <p><b>Renewal</b>                  For a renewal the applicant has to present to the Examiner with a certificate from an ATO to verify whether refresher training was required and the training completed (note the ATO assessment certificate is required even if refresher training was not required). AMC1 FCL.740(b)(1) states refresher training requirements as</p> <ul style="list-style-type: none"> <li>&lt; 3 months no training required.</li> <li>&gt;3 months &lt;1 year min 2 training sessions</li> <li>&gt;1 year &lt;3 years min 3 training sessions</li> <li>&gt;3 years 'complete an add type course</li> </ul> <p>The Examiner may only sign the applicants licence if the renewal is</p> <ul style="list-style-type: none"> <li>&lt;3 years after the expiry date and if the rating appears of the front page of the licence (types listed in item XII, ratings, certificates and privileges) and in the C of R section.</li> </ul> <p><b>To Revalidate by Experience:</b>                  See SPH/MPH TYPE SKILL TEST</p> <p><b>IR</b>                  Applicants with a valid IR (H) on the type should revalidate their IR (H) privileges as part of the check, however, if the IR (H) has to be assessed separately due to weather, it may be flown on a separate flight within the revalidation period and both flights should be signed off at the same time.</p>

<b>MPH.IR(H) – Initial issue skill test conducted on MP(H)</b>	
MCAR reference:	<i>Appendix 9 to Part-FCL</i>
Who can test:	TRE (H).
Form used:	CAA Form
Test format:	<p>The test is conducted in a similar manner to the IR (H) skill test conducted as SPH. The following considerations are required (also see under Notes);</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The pre-flight briefing is to be attended by all flight crew members</li> <li><input type="checkbox"/> The briefing must specify that the safety pilot will not exercise judgement decisions or pre-empt P1 requirements. The P1 is to call for all checks and equipment set-up.</li> </ul> <p>The following items are to be decided pre-flight:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The method for simulating engine failure.</li> <li><input type="checkbox"/> The method of screening and limited panel practice.</li> <li><input type="checkbox"/> Items which for safety reasons cannot be conducted in flight which may be checked by the Examiner by oral questioning</li> <li><input type="checkbox"/> Any minima that the P1 is subject to by the aeroplane operator.</li> </ul>
Notes:	Unless the Examiner is rated on the type he shall not take the co-pilot seat unless specifically authorised by the Authority. The safety pilot is to be qualified as a TRI (H) or equivalent and is to act as both lookout and safety pilot.
Revalidation:	<p>IR (H) is valid only for helicopter type on which the skill test is completed.</p> <p>MPH type rating and MPH IR (H) is not valid for SPH role on type and vice-versa.</p> <p>If the rating lapses by more than 5 years it shall be renewed by MPH IR (H) renewal by an Examiner of the authority and by skill test. If the rating lapses by more than 7 years the entire IR (H) Skill Test and the IR Theoretical knowledge exams shall be completed again.</p>

<b>SPH TYPE RATING LICENCE SKILL TEST</b>	
MCAR reference:	<i>PART-FCL Subpart F Appendix 3 to PART-FCL.240</i>
Who can test:	AE(H) - SEH/MEH, FE(H) - PPL SEH, TRE(H) - SEH/MEH
Form used:	CAA Form
Notes:	<p><b>Training</b></p> <p>If the test is to be conducted on a Multi-Engine helicopter then applicants must have 70 hrs. PIC helicopters and have completed the PART-FCL specified type rating requirements. The applicants must also have passed a written test set by the TRTO and approved by the Authority, on the helicopter type (75% pass mark).</p> <p><b>Testing</b></p> <p>Applicants not wishing to revalidate an IR (H) shall omit this Section.</p>



<b>SPH TYPE RATING PROFICIENCY CHECK</b>	
MCAR reference:	<i>Appendix 3 to PART-FCL.240</i>
Period:	<p>12 months for all types (as defined in PART-FCL.220) Proficiency Checks can be flown up to 3 months before the expiry date with no loss to the original expiry date provided at least 2 flight hours have been completed on the type in the 12 month preceding expiry.</p> <p>If the expiry date is passed by less than 5 years the applicant may Renew the rating as above. If the expiry date has exceeded 5 years the National Authority may direct refresher training prior to a Renewal test flight</p>
Who can test:	AE(H) - SEH/MEH, FE(H) - PPL SEH, TRE(H) - SEH/MEH
Form used:	CAA Form
Test format:	<p>To revalidate by experience for SEH Piston group as shown in Appendix 1 to PART-FCL.245(b)(3):</p> <p>SEH Piston types as listed in Appendix 1 to PART-FCL.245(b)(3) may be revalidated by experience of 2 hours on each type in the 12 months preceding expiry provided a proficiency check is completed with an Examiner on one of the SEH Piston types on the list. The licence endorsement for the type ratings revalidated by experience shall show the same validity expiry date as that on which the proficiency check was completed.</p>
Notes:	Applicants with a valid IR (H) on the type shall revalidate their IR (H) as part of the check. However if the IR(H) has to be assessed separately due to weather it may be flown on a separate flight within the revalidation/renewal period and both flights should be signed off at the same time.

## CHAPTER 10 – AIRLINE TRANSPORT PILOT LICENCE (AEROPLANE) ATPL (A) AND MULTI-CREW PILOT LICENCE (MPL)

A guide to the structure of the ATPL skill test for the TRE.

All items of the skill test should be performed utilising the Flight Test Standards of Chapter 3/4 and Tolerances of Chapter 5.

### 10.1 Aeroplane

#### *Quick Reference:*

MCAR reference:	<i>FCL.415.A; Appendix 9 to PART-FCL</i>
Who can test:	TRE
Form used:	National Forms
Test Format :	See below

### 10.2 Expanded guidance

*Appendix 9 to PART-FCL*

*Skill test and proficiency check for aeroplane type/class ratings and ATPL*

*FCL.415.A MPL - Practical skill*

*(b) On completion of the training course, the applicant shall pass a skill test in accordance with Appendix 9 to this Part, to demonstrate the ability to perform the relevant procedures and maneuvers with the competency appropriate to the privileges granted. The skill test shall be taken in the type of aeroplane used on the advanced phase of the MPL integrated training course or in an FFS representing the same type.*

### 10.3 Test Format

1. The applicant shall have completed the required instruction in accordance with the syllabus.
2. Items to be covered in skill tests are given in the applicable appendix. With the approval of the Authority, several different skill test scenarios may be developed simulated line operations. The Examiner will select one of these scenarios. Flight simulators, if available and other training devices as approved shall be used.
3. In the case of single-pilot aeroplanes, with the exception of for single-pilot high performance complex aeroplanes, the applicant shall pass all sections of the skill test or proficiency check. If any item in a section is failed, that section is failed. Failure in more than one section will require the applicant to re-take the entire test or check again. Any applicant failing only one section shall take the failed section again. Failure in any section of the re-test or re-check including those sections that have been passed at a previous attempt will require the applicant to take the entire test or check again. For single- pilot multi-engine aeroplanes, section 6 of the relevant test or check, addressing asymmetric flight, shall be passed.
4. In the case of multi-pilot and single-pilot high performance complex aeroplanes, the applicant shall pass all sections of the skill test or proficiency check. Failure of more than five items will require the applicant to take the entire test or check again. Any applicant failing five or less items shall take the failed items again. Failure in any item on the re-test or re-check including those items that have been passed at a previous attempt will require the applicant to take the entire check or test again. Section 6 is not part of the ATPL or MPL skill test. If the applicant only fails or does not take section 6, the type rating will be issued without CAT II or CAT III privileges. To extend the type rating privileges to CAT II or CAT III, the applicant shall pass the section 6 on the appropriate type of aircraft.

- (a) In case the applicant fails or does not take Section 6, only the type rating will be issued without Cat II or III privileges.
  - (b) Section 6 is not part of the ATPL skill test.
5. Further training may be required after a failed test. Failure to achieve a valid pass in all items in two attempts shall require further training as determined by the Examiner. There is no limit to the number of skill tests that may be attempted.

#### **10.4 Conduct of the test/check - General**

- 6. Should an applicant choose not to continue with a test for reasons considered inadequate by the Examiner, the applicant will be regarded as having failed those items not attempted. If the test is terminated for reasons considered adequate by the Examiner, only those items not completed shall be tested in a further flight.
- 7. At the discretion of the Examiner any manoeuvre or procedure of the test may be repeated once by the applicant. The Examiner may stop the test at any stage if it is considered that the applicant's competency requires a complete re-test.
- 8. Checks and procedures shall be carried out/completed in accordance with the authorised checklist for the aeroplane used in the test and, if applicable, with the MCC concept. Performance data for take-off, approach and landing shall be calculated by the applicant in compliance with the operations handbook, or flight handbook, for the aeroplane used. Decision heights/altitude, minimum descent heights/altitudes and missed approach point shall be determined by the applicant for the ATPL (A) and MPL.
- 9. The test for a multi-pilot aeroplane shall be performed in a multi-crew environment.
- 10. Another applicant, or another pilot, may function as second pilot. If an aeroplane, rather than a simulator, is used for the test/check, the second pilot shall be a TRI.
- 11. An applicant for the initial issue of an ATPL (A) or MPL shall be required to operate as 'pilot flying' (PF) during all sections of the test. The applicant shall also demonstrate the ability to act as 'pilot not flying' (PNF). The applicant may choose either the left hand or the right hand seat for the ATPL (A) test.
- 12. The test should be accomplished under IFR and as far as possible in a simulated commercial air transport environment. An essential element is the ability to plan and conduct the flight from routine briefing material.

#### **10.5 Flight Test Tolerances**

The applicant will demonstrate the ability to:

- (a) operate the aeroplane within its limitations;
- (b) complete all manoeuvres with smoothness and accuracy;
- (c) exercise good judgement and airmanship ;
- (d) apply aeronautical knowledge;
- (e) maintain control of the aeroplane at all times in such a manner that the successful outcome of a procedure or manoeuvre is never in doubt;
- (f) understand and apply crew co-ordination and incapacitation procedures, if applicable; and,
- (g) communicate effectively with the other crew members, if applicable.

## Chapter 11 – EXAMINATION OF INSTRUCTORS

### Aeroplane and helicopter

A guide to the structure of flight instructor initial skill tests and revalidation proficiency checks for the FIE

All items of the skill test should be performed utilising the Flight Test Standards of Chapter 3/4 and Tolerances of Chapter 5.

#### 11.1 General

##### *FCL.920 Instructor competencies and assessment*

All instructors shall be trained to achieve the following competences:

- prepare resources,
- create a climate conducive to learning,
- present knowledge,
- integrate Threat and Error Management (TEM) and crew resource management,
- manage time to achieve training objectives,
- facilitate learning,
- assess trainee performance,
- monitor and review progress,
- evaluate training sessions, and
- report outcome.

##### *FCL.925 Additional requirements for instructors for the MPL*

- (a) Instructors conducting training for the MPL shall:
  - (1) have successfully completed an MPL instructor training course at an ATO; and
  - (2) additionally, for the basic, intermediate and advanced phases of the MPL integrated training course:
    - (i) be experienced in multi-pilot operations; and
    - (ii) have completed initial crew resource management training with a commercial air transport operator approved in accordance with the applicable air operations requirements.
- (b) MPL instructors training course
  - (1) The MPL instructor training course shall comprise at least 14 hours of training. Upon completion of the training course, the applicant shall undertake an assessment of instructor competencies and of knowledge of the competency-based approach to training.
  - (2) The assessment shall consist of a practical demonstration of flight instruction in the appropriate phase of the MPL training course. This assessment shall be conducted by an Examiner qualified in accordance with Subpart K.

##### *FCL.935 Assessment of competence*

- (a) Except for the multi-crew cooperation instructor (MCCI), the synthetic training instructor (STI), the mountain rating instructor (MI) and the flight test instructor (FTI), an applicant for an instructor certificate shall pass an assessment of competence in the appropriate aircraft category to demonstrate to an Examiner qualified in accordance with Subpart K the ability to instruct a student pilot to the level required for the issue of the relevant licence, rating or certificate.
- (b) This assessment shall include:
  - (1) the demonstration of the competencies described in FCL.920, during pre-flight, post-flight and theoretical knowledge instruction;
  - (2) oral theoretical examinations on the ground, pre-flight and post-flight briefings and in-flight demonstrations in the appropriate aircraft class, type or FSTD;
  - (3) exercises adequate to evaluate the instructor's competencies.

- (c) The assessment shall be performed on the same class or type of aircraft or FSTD used for the flight instruction.
- (d) When an assessment of competence is required for revalidation of an instructor certificate, an applicant who fails to achieve a pass in the assessment before the expiry date of an instructor certificate shall not exercise the privileges of that certificate until the assessment has successfully been completed.

***GMI FCL.900 Instructor certificates***

**GENERAL**

- (a) Nine instructor categories are recognised:
  - (1) FI certificate: aeroplane (FI(A)), helicopter (FI(H)), airship (FI(As)), sailplane (FI(S)) and balloon (FI(B));
  - (2) TRI certificate: aeroplane (TRI(A)), helicopter (TRI(H)), powered-lift aircraft (TRI(PL));
  - (3) CRI certificate: aeroplane (CRI(A));
  - (4) IRI certificate: aeroplane (IRI(A)), helicopter (IRI(H)) and airship (IRI(As));
  - (5) SFI certificate: aeroplane (SFI(A)), helicopter (SFI(H)) and powered-lift aircraft (SFI(PL));
  - (6) MCCI certificate: aeroplanes (MCCI(A)), helicopters (MCCI(H)), powered-lift aircraft (MCCI(PL)) and airships (MCCI(As));
  - (7) STI certificate: aeroplane (STI(A)) and helicopter (STI(H));
  - (8) MI certificate: (MI);
  - (9) FTI certificate: (FTI).
- (b) For categories (1) to (4) and for (8) and (9) the applicant needs to hold a pilot licence. For categories (5) to (7) no licence is needed, only an instructor certificate.
- (c) A person may hold more than one instructor certificate.

**11.2 Assessment of competences**

***AMCI FCL.920 Instructor competencies and assessment***

- (a) Training should be both theoretical and practical. Practical elements should include the development of specific instructor skills, particularly in the area of teaching and assessing threat and error management and CRM.
- (b) The training and assessment of instructors should be made against the following performance standards:

<b>COMPETENCE</b>	<b>PERFORMANCE</b>	<b>KNOWLEDGE</b>
Prepare resources	(a) ensures adequate facilities; (b) prepares briefing material; (c) manages available tools.	(a) understand objectives; (b) available tools; (c) competency-based training methods.
Create a climate conducive to learning	(a) establishes credentials, role models appropriate behaviour; (b) clarifies roles; (c) states objectives; (d) ascertains and supports trainees needs.	(a) barriers to learning; (b) learning styles.
Present knowledge	(a) communicates clearly; (b) creates and sustains realism; (c) looks for training opportunities.	teaching methods.

COMPETENCE	PERFORMANCE	KNOWLEDGE
Integrate TEM or CRM	makes TEM or CRM links with technical training.	HF, TEM or CRM.
Manage time to achieve training objectives	allocates time appropriate to achieving competency objective.	syllabus time allocation.
Facilitate learning	(a) encourages trainee participation; (b) shows motivating, patient, confident and assertive manner; (c) conducts one-to-one coaching; (d) encourages mutual support.	(a) facilitation; (b) how to give constructive feedback; (c) how to encourage trainees to ask questions and seek advice;
Assesses trainee performance	(a) assesses and encourages trainee self-assessment of performance against competency standards; (b) makes assessment decision and provide clear feedback; (c) observes CRM behaviour.	(a) observation techniques; (b) methods for recording observations.
Monitor and review progress	(a) compares individual outcomes to defined objectives; (b) identifies individual differences in learning rates; (c) applies appropriate corrective action.	(a) learning styles; (b) strategies for training adaptation to meet individual needs.
Evaluate training	(a) elicits feedback from trainees; (b) tracks training session processes against competence criteria; (c) keeps appropriate records.	(a) competency unit sessions and associated elements; (b) performance criteria
Report outcome	reports accurately using only observed actions and events.	(a) phase training objectives; (b) individual versus systemic weaknesses.

### *AMC1 FCL.935 Assessment of competence*

#### GENERAL

- (a) The format and application form for the assessment of competence are determined by the competent authority.
- (b) When an aircraft is used for the assessment, it should meet the requirements for training aircraft.
- (c) If an aircraft is used for the test or check, the Examiner acts as the PIC, except in circumstances agreed upon by the Examiner when another instructor is designated as PIC for the flight.
- (d) During the skill test the applicant occupies the seat normally occupied by the instructor (instructors seat if in an FSTD, or pilot seat if in an aircraft), except in the case of balloons. The Examiner, another instructor or, for MPA in an FFS, a real crew under instruction, functions as the ‘student’. The applicant is required to explain the relevant exercises and to demonstrate their conduct to the ‘student’, where appropriate. Thereafter, the ‘student’ executes the same maneuvers (if the ‘student’ is the Examiner or another instructor, this can include typical mistakes of inexperienced students). The applicant is expected to correct mistakes orally or, if necessary, by intervening physically.
- (e) The assessment of competence should also include additional demonstration exercises, as decided by the Examiner and agreed upon with the applicant before the assessment. These additional exercises should be related to the training requirements for the applicable instructor certificate.

- (f) All relevant exercises should be completed within a period of 6 months. However, all exercises should, where possible, be completed on the same day. In principle, failure in any exercise requires a retest covering all exercises, with the exception of those that may be retaken separately. The Examiner may terminate the assessment at any stage if they consider that a retest is required.

### 11.3 Conduct of the Assessment

The Assessment of competence has to be performed according to FCL.935. The test comprises oral theoretical examinations on the ground, pre-flight and post flight briefings and in-flight demonstrations.

The accommodation for the theoretical part of the test shall be a suitable location for giving a test lecture to students.

The following books and documents should be available for the briefings and the flight:

1. AIP
2. AIC's
3. Navigation material, charts, computer
4. Flight handbooks
5. Instructor guides
6. Training syllabus
7. Pilot licences

Appropriate literature/training aids representative of the test aeroplane should be used for the lecture and briefings.

#### 11.3.1 Theoretical Knowledge

The aim of the oral examination is to determine the applicant's knowledge of the following subjects:

1. Air Law
2. Aeroplane/Helicopter General Knowledge
3. Flight Performance and Planning
4. Human Performance and Limitations
5. Meteorology
6. Navigation
7. Operational Procedures
8. Principles of Flight
9. Administration

The oral examination will normally take 1 hour but is dependent on both type, of test and the applicant's performance.

- a. Questions should be of a practical nature related to the subjects.
- b. Questions may be answered using whatever training aids or equipment is available.
- c. Questions may be answered by referring to the books, documents and diagrams.

If the test is used for the issue or revalidation of an IRI, the questions should also focus on instrument flying techniques, IR regulations and procedures.

If the test is used for the issue or revalidation of a FI (ME) or CRI (ME) specific questions relating to asymmetric flight are to be asked.

## 11.4 The Lecture

The applicant is required to give a lecture under test conditions to his student ‘audience’, one of whom will be the Examiner.

1. The subject of the lecture will be determined by the Examiner and preferably chosen from the exercises from AMC1 FCL .930.FI, AMC1 FCL .930.TRI, AMC1 FCL.930.CRI and AMC1 FCL.930.IRI, AMC1 FCL.930.MCCI.
2. Time of preparation for the test lecture is agreed upon beforehand with the Examiner.
3. The lecture should not exceed 45 minutes.
4. The Examiner, in the case he is acting as a student, should clearly explain which level he must be considered as a student.
5. Applicants must expect to use whatever training aids and equipment are available. However - training aids and equipment should reflect current technical standards.
6. An aeroplane/helicopter model, representing the test aeroplane/helicopter, is essential.

### 11.4.1 The four basic components of the lecture will be:

1. The Aim
2. Principles of Flight (briefest reference only)
3. The Air Exercises (what and how and by whom)
4. Airmanship (weather, flight safety etc.)

### 11.4.2 The lecture should contain:

1. A good time frame
2. A structural “build-up”
3. No untrue statements
4. A theoretical explanation of the practical lesson
5. Explanation of airmanship
6. Mention of common failures of students during exercises
7. Explanation of the corrections on the failures
8. All practical flight details
9. Check questions for the audience
10. Time for the audience to ask questions

During the lecture the applicant will be assessed by the Examiner on the following items:

1. Visual presentation
2. Technical accuracy
3. Clarity of explanation
4. Clarity of speech
5. Instructional techniques
6. Use of models and aids
7. Student participation

## 11.5 The Pre-flight Briefing

The pre-flight briefing should be a short practical briefing of about 15 to 20 minutes. The Examiner should explain that throughout the flight he, or another instructor, will act as the student. The level of experience of this student has to be clearly identified.

The assessment of the pre-flight briefing will be in accordance with the assessment items of paragraph 11.3, above.



## 11.6 The Flight

When the assessment is conducted in a simulator the assessment should include a minimum of 3 hours of flight instruction. When the assessment is conducted in an aeroplane the assessment should include a minimum of 1 hour of flight instruction.

The chosen exercise briefed during the pre-flight briefing should be the main exercise of the flight.

Before the flight the Examiner should clearly identify:

1. which exercises the applicant is to fly without instructional 'patter',
2. which exercises are to be taught to the student, and
3. which exercises may be demonstrated to the student but with accompanying 'patter'.

During the skill test the applicant shall occupy the seat normally occupied by the instructor. The Examiner, acting as a student, must act according to the instructions given by the applicant. The Examiner should not deliberately set traps, but act as a normal student and introduce common student errors for the applicant to identify and correct. It is also important that the Examiner is consistent in his response, so that mistakes mastered by the applicant, no longer occur.

The applicant should:

1. demonstrate instructional knowledge of common errors of students in performing exercises.
2. demonstrate and simultaneously explain the flight exercises.
3. analyse and correct simulated common errors.

The applicant will be expected to demonstrate personal standards of flying ability and airmanship to the level of a professional pilot. Assessment of the flight will contain:

1. Arrangement of Demo
2. Synchronisation of Speech with Demo
3. Correction of Faults
4. Aeroplane Handling
5. Instructional Technique
6. General Airmanship/Safety
7. Positioning, Use of Airspace

## 11.7 Post Flight Briefing

Assessment of the post flight briefing will be according the items of paragraph 11.3, above.

## **CHAPTER 12**

### **LINE CHECK AND PROFICIENCY TRAINING AND CHECKING**

#### **12.1 Line Checks and Proficiency Checks**

- (a) Line checks, route and aerodrome knowledge and recent experience requirements are intended to ensure the crew member's ability to operate efficiently under normal conditions, whereas other checks and emergency and safety equipment training are primarily intended to prepare the crew member for abnormal/emergency procedures.
- (b) The line check is considered a particularly important factor in the development, maintenance and refinement of high operating standards, and can provide the operator with a valuable indication of the usefulness of his/her training policy and methods. Line checks are a test of a flight crew member's ability to perform a complete line operation, including pre-flight and post-flight procedures and use of the equipment provided, and an opportunity for an overall assessment of his/her ability to perform the duties required as specified in the operations manual. The line check is not intended to determine knowledge on any particular route.
- (c) Proficiency training and checking  
When an FSTD is used, the opportunity should be taken, where possible, to use LOFT.

#### *ORO.FC.130 Recurrent training and checking*

- (a) *Each flight crew member shall complete annual recurrent flight and ground training relevant to the type or variant of aircraft on which he/she operates, including training on the location and use of all emergency and safety equipment carried.*
- (b) *Each flight crew member shall be periodically checked to demonstrate competence in carrying out normal, abnormal and emergency procedures.*

#### *ORO.FC.230 Recurrent training and checking*

- (a) *Each flight crew member shall complete recurrent training and checking relevant to the type or variant of aircraft on which they operate.*
- (b) *Operator proficiency check*
- (c) *Line check*
- (d) *Emergency and safety equipment training and checking*
- (e) *CRM training*

#### **12.2 Recurrent Training Syllabus**

##### **12.2.1 Ground training**

- (a) The ground training programme should include:
  - (1) aircraft systems;
  - (2) operational procedure and requirements including ground de-icing/anti-icing and pilot incapacitation; and
  - (3) accident/incident and occurrence review.
- (b) Knowledge of the ground training should be verified by a questionnaire or other suitable methods.
- (c) When the ground training is conducted within 3 calendar months prior to the expiry of the 12 calendar months period, the next ground and refresher training should be completed within 12 calendar months of the original expiry date of the previous training.

### 12.2.2 Aircraft/FSTD training

#### (a) Aeroplanes

- (1) The aircraft/FSTD training programme should be established in a way that all major failures of aircraft systems and associated procedures will have been covered in the preceding 3 year period.
- (2) When engine-out manoeuvres are carried out in an aircraft, the engine failure should be simulated.
- (3) Aircraft/FSTD training may be combined with the operator proficiency check.
- (4) When the aircraft/FSTD training is conducted within 3 calendar months prior to the expiry of the 12 calendar months period, the next aircraft/FSTD training should be completed within 12 calendar months of the original expiry date of the previous training.

#### (b) Helicopters

- (1) Where a suitable FSTD is available it should be used for the aircraft/FSTD training programme. If the operator is able to demonstrate, on the basis of a compliance and risk assessment, that using an aircraft for this training provides equivalent standards of training with safety levels similar to those achieved using an FSTD, the aircraft may be used for this training to the extent necessary.
- (2) The recurrent training should include the following additional items, which should be completed in an FSTD:
  - settling with power and vortex ring;
  - loss of tail rotor effectiveness.

#### (c) Others

For operations with other-than-complex motor-powered aeroplanes, all training and checking should be relevant to the type of operation and class of aeroplane on which the flight crew member operates with due account taken of any specialised equipment used.

### 12.3 Recurrent checks

#### (a) Aeroplanes

Where applicable, operator proficiency checks should include the following manoeuvres as pilot flying:

- (1) rejected take-off when an FSTD is available to represent that specific aeroplane, otherwise touch drills only;
- (2) take-off with engine failure between V1 and V2 (take-off safety speed) or, if carried out in an aeroplane, at a safe speed above V2;
- (3) precision instrument approach to minima with, in the case of multi-engine aeroplanes, one-engine-inoperative;
- (4) non-precision approach to minima;
- (5) missed approach on instruments from minima with, in the case of multi-engine aeroplanes, one-engine-inoperative;
- (6) landing with one-engine-inoperative. For single-engine aeroplanes a practice forced landing is required.

#### (b) Helicopters

- (1) Where applicable, operator proficiency checks should include the following abnormal/emergency procedures:
  - engine fire;
  - fuselage fire;
  - emergency operation of under carriage;
  - fuel dumping;
  - engine failure and relight;
  - hydraulic failure;
  - electrical failure;
  - engine failure during take-off before decision point;
  - engine failure during take-off after decision point;
  - engine failure during landing before decision point;
  - engine failure during landing after decision point;
  - flight and engine control system malfunctions;
  - recovery from unusual attitudes;
  - landing with one or more engine(s) inoperative;

- instrument meteorological conditions (IMC) autorotation techniques;
  - autorotation to a designated area;
  - pilot incapacitation;
  - directional control failures and malfunctions.
- (2) For pilots required to engage in IFR operations, proficiency checks include the following additional abnormal/emergency procedures:
- precision instrument approach to minima;
  - go-around on instruments from minima with, in the case of multi-engine helicopters, a simulated failure of one engine;
  - non-precision approach to minima;
  - in the case of multi-engine helicopters, a simulated failure of one engine to be included in either the precision or non-precision approach to minima;
  - landing with a simulated failure of one or more engines;
  - where appropriate to the helicopter type, approach with flight control system/flight director system malfunctions, flight instrument and navigation equipment failures.
- (3) Before a flight crew member without a valid instrument rating is allowed to operate in VMC at night, he/she should be required to undergo a proficiency check at night. Thereafter, each second proficiency check should be conducted at night.

#### 12.4 Line checks

- (a) Line checks should establish the ability to perform satisfactorily a complete line operation including pre-flight and post-flight procedures and use of the equipment provided, as specified in the operations manual. The route chosen should be such as to give adequate representation of the scope of a pilot's normal operations. When weather conditions preclude a manual landing, an automatic landing is acceptable. The commander, or any pilot who may be required to relieve the commander, should also demonstrate his/her ability to 'manage' the operation and take appropriate command decisions.
- (b) The flight crew should be assessed on their CRM skills in accordance with a methodology described in the operations manual. The purpose of such assessment is to:
- (1) provide feedback to the crew collectively and individually and serve to identify retraining; and
  - (2) be used to improve the CRM training system.
- (c) CRM assessment alone should not be used as a reason for a failure of the line check.
- (d) When pilots are assigned duties as pilot flying and pilot monitoring they should be checked in both functions.
- (e) Line checks should be conducted by a commander nominated by the operator. The operator should inform MCAA about the persons nominated. The person conducting the line check, should occupy an observer's seat where installed. His/her CRM assessments should solely be based on observations made during the initial briefing, cabin briefing, flight crew compartment briefing and those phases where he/she occupies the observer's seat.
- (1) For aeroplanes, in the case of long haul operations where additional operating flight crew are carried, the person may fulfil the function of a cruise relief pilot and should not occupy either pilot's seat during take-off, departure, initial cruise, descent, approach and landing.
- (f) Where a pilot is required to operate as pilot flying and pilot monitoring, he/she should be checked on one flight sector as pilot flying and on another flight sector as pilot monitoring. However, where the operator's procedures require integrated flight preparation, integrated cockpit initialisation and that each pilot performs both flying and monitoring duties on the same sector, then the line check may be performed on a single flight sector.
- (g) When the operator proficiency check, line check or emergency and safety equipment check are undertaken within the final 3 calendar months of validity of a previous check, the period of validity of the subsequent check should be counted from the expiry date of the previous check.
- (5) In the case of single-pilot operations with helicopters, the recurrent checks should be performed in the single-pilot role on a particular helicopter type in an environment representative of the operation.

## 12.5 Personnel providing training and checking

Training and checking should be provided by the following personnel:

- (a) ground and refresher training by suitably qualified personnel;
- (b) flight training by a flight instructor (FI), type rating instructor (TRI) or class rating instructor (CRI) or, in the case of the FSTD content, a synthetic flight instructor (SFI), providing that the FI, TRI, CRI or SFI satisfies the operator's experience and knowledge requirements sufficient to instruct on the items specified in paragraphs (a)(1)(i)(A) and (B);
- (c) emergency and safety equipment training by suitably qualified personnel;
- (d) CRM:
  - (1) integration of CRM elements into all the phases of the recurrent training by all the personnel conducting recurrent training. The operator should ensure that all personnel conducting recurrent training are suitably qualified to integrate elements of CRM into this training;
  - (2) modular CRM training by at least one CRM trainer, who may be assisted by experts in order to address specific areas.
- (e) recurrent checking by the following personnel:
  - (1) operator proficiency check by a type rating examiner (TRE), class rating examiner (CRE) or, if the check is conducted in a FSTD, a TRE, CRE or a synthetic flight examiner (SFE), trained in CRM concepts and the assessment of CRM skills.
  - (2) emergency and safety equipment checking by suitably qualified personnel.

## 12.6 Use of FSTD

- (a) Training and checking provide an opportunity to practice abnormal/emergency procedures that rarely arise in normal operations and should be part of a structured programme of recurrent training. This should be carried out in an FSTD whenever possible.
- (b) The line check should be performed in the aircraft. All other training and checking should be performed in an FSTD, or, if it is not reasonably practicable to gain access to such devices, in an aircraft of the same type or in the case of emergency and safety equipment training, in a representative training device. The type of equipment used for training and checking should be representative of the instrumentation, equipment and layout of the aircraft type operated by the flight crew member.
- (c) Because of the unacceptable risk when simulating emergencies such as engine failure, icing problems, certain types of engine(s) (e.g. during continued take-off or go-around, total hydraulic failure), or because of environmental considerations associated with some emergencies (e.g. fuel dumping) these emergencies should preferably be covered in an FSTD. If no FSTD is available these emergencies may be covered in the aircraft using a safe airborne simulation, bearing in mind the effect of any subsequent failure, and the exercise must be preceded by a comprehensive briefing.

## 12.7 Flight Engineers

- (a) The recurrent training and checking for flight engineers should meet the requirements for pilots and any additional specific duties, omitting those items that do not apply to flight engineers.
- (b) Recurrent training and checking for flight engineers should, whenever possible, take place concurrently with a pilot undergoing recurrent training and checking.
- (c) The line check should be conducted by a commander or by a flight engineer nominated by the operator, in accordance with national rules, if applicable.

## GENERAL GUIDELINES FOR PROFICIENCY CHECKS

### 1 Purpose

- 1.1 Proficiency checks (PPCs) are conducted/monitored to assess the effectiveness and standard of the Air Operator's training and flight checking system and to qualify pilots for Air Operator operations in accordance with MCARs.
- 1.2 The Proficiency check may be conducted in accordance with the standards described here. The Proficiency check will be documented on the appropriate form.
- 1.3 A Proficiency check is deemed to be an initial check if the validity period of the last check on type has expired by 24 months or more.

### 2 The Inspector/ an examiner Relationship

- 2.1 It is desirable to have an examiner or a training pilot assist the Inspector on a Flight Check or Simulator Check requiring an Inspector's participation; however, if an examiner is not available, the flight check will be conducted solely by the Inspector as follows:
  - a) if the aircraft is certified for single-pilot operation, the Inspector may occupy the co-pilot position except where the Air Operator has indicated in its operations manual that all flights will require a two-man crew;
  - b) where the aircraft is certified for operations with a minimum of two flight crew, the Inspector shall occupy the jump seat, the candidate will occupy either of the two pilot seats and a qualified safety pilot shall occupy the remaining pilot position; and
  - c) when the aircraft type specification requires two pilots, but is not equipped with a jump seat, the Inspector may occupy the co-pilot position providing he/she is endorsed and current on the aircraft type, trained and competent on company operations and has written authority from the company.

### 3 Participation

- 3.1 When conducting a PPC in a simulator, the examiner shall not participate as a crew member and shall limit his/her activities to the operation of the simulator.
- 3.2 When conducting a PPC in an aircraft, the examiner may act as safety pilot and occupy either of the pilot flight positions. In these circumstances, the pre-flight briefing shall include in-flight duties assigned to the examiner. Those duties shall be kept to a minimum to ensure adequate observation of the pilot's procedures, techniques and performance.
- 3.3 An examiner shall refrain from training or demonstrating proper technique during a ride.
- 3.4 Aircraft used for the flight check shall be equipped with fully functioning dual controls and provide for a satisfactory means of verbal communication.

### 4 Documentation

- 4.1 Prior to commencing a PPC the examiner will examine and verify the validity of the:
  - a) Pilot Licence, and Instrument Rating (if applicable);
  - b) Medical Certificate;
  - c) Pilot training file; and
  - d) Aircraft documents.
- 4.2 A check-ride will not be conducted if licensing and/or training documents are not presented; are not valid or if the company has failed to provide training for the candidate as specified in the air operator's approved training plan. Training shall be documented and certified and include a recommendation for the candidate to undergo the check ride.
- 4.3 If the check is to be conducted in a simulator that has unserviceabilities, then reference must be made to the Simulator Component Inoperative Guide to ascertain if the check-ride can be completed given the nature of the unserviceabilities.

## 5 Validity and renewal of ratings

- 5.1 Ratings shall be revalidated within the 3 months immediately preceding the expiry date.
- 5.2 Instrument rating
- (a) The validity of an IR shall be for 1 year.
  - (b) If an IR has expired, in order to renew:
    - (1) go through refresher training at an ATO; and
    - (2) complete a proficiency check.
  - (c) If the IR has not been revalidated or renewed within 7 years, it is required to pass the theoretical knowledge examination and skill test.
- 5.3 Class and type ratings
- (a) The validity of class and type ratings are 1 year, except for SP SE class ratings, which is 2 years.
  - (b) If a class or type rating has expired, in order to renew:
    - (1) go through refresher training at an ATO; and
    - (2) complete a proficiency check.

## 6 Briefing

- 6.1 A pre-flight briefing to the candidate is mandatory, whether the check is to be conducted in a simulator or an aircraft. It must be sufficiently detailed to avoid failure due to the candidate's misunderstanding of standards or limitations expected by the examiner.
- 6.2 The briefing for a check to be conducted in a simulator should include:
- a) the mandatory items to be demonstrated during the check;
  - b) the probable duration of the ride;
  - c) that the aircraft is to be flown in accordance with flight manual requirements and within acceptable tolerances;
  - d) the identification and role of the pilot-in-command;
  - e) in all cases, the candidate is expected to initiate the response to any event and carry out any required emergency procedure except where the candidate is not the designated pilot-in-command and the pilot-in-command assumes control of the aircraft;
  - f) normal crew co-ordination is expected. An emergency situation caused by incorrect or inappropriate action or response on the part of the candidate will not be corrected by the examiner;
  - g) multiple, unrelated failures will not be required, but the candidate must be prepared to take corrective action on related failures, e.g., loss of hydraulics or electrical supply due to a failed engine;
  - h) for the purpose of the ride, the weather will be at or below the weather minima for the approach being carried out. The pilot must assess whether the departure weather is suitable. The examiner may not always provide 'legal' weather;
  - i) the candidate may be required to demonstrate any normal or emergency procedure applicable to the aircraft. The candidate's technical performance will be assessed in accordance with the:
    - (i) Aircraft Flight Manual, Aircraft Operating Manual or Pilot Operating Handbook;
    - (ii) Rule of the Air and ATC procedures;
    - (iii) Air Operator's Operations Manual; and
    - (iv) Air Operator's SOPs.
- 6.3 The briefing for a check to be conducted in an aircraft should include:
- a) the mandatory items to be demonstrated during the check (to include weather, simulated/actual, icing and clearances);
  - b) the probable duration of the ride;
  - c) any restrictions or limits imposed on manoeuvres conducted in the aircraft to enhance flight safety;
  - d) the role of the examiner in regard to crew duties if he/she occupies a flight crew position;
  - e) the identification and role of the pilot-in-command;
  - f) a method of transferring control from one pilot to the other using the statement, "I have control;"
  - g) the actions to be completed in the event of a real emergency or malfunction;
  - h) in all cases, the candidate will be expected to initiate the response to any event and carry out any required emergency procedure except where the candidate is not the designated pilot-in-command and the pilot-in-command assumes control of the aircraft;

- i) simulated emergencies introduced by the examiner in an aircraft will be preceded by the word 'simulated';
- j) for the purpose of the ride, the weather will be simulated at or below the weather minima for the approach being carried out. The pilot must assess whether the departure weather is suitable. The examiner may not always provide 'legal' weather.
- k) when an airborne flight check is conducted, failure on the part of the candidate to report "field in sight" at MDA or DH will require the candidate to execute a missed approach; and
- l) the candidate may be required to demonstrate any normal or emergency procedure applicable to the aircraft. The candidate's technical performance will be assessed in accordance with the:
  - (i) Aircraft flight manual, aircraft operating manual or pilot operating handbook;
  - (ii) Rule of the Air and ATC procedures;
  - (iii) Air Operator's operations manual; and
  - (iv) Air Operator's SOPs.

## 7 Flight Tests

- 7.1 A flight check in accordance with MCARs on an aircraft without a synthetic training device must be completed in an area where the required approach aids are available. See section 6.11 for guidelines on conducting checks in the aircraft.
- 7.2 The following mandatory items must be successfully completed:
- a) two take - offs;
  - b) two landings, one must be asymmetrical;
  - c) two types of instrument approaches, one must be carried out with a simulated asymmetric engine failure;
  - d) a rejected take-off (as appropriate);
  - e) a missed approach or rejected landing followed by a simulated engine failure;
  - f) emergency procedures sufficient to check the candidate's knowledge of the aeroplane;
  - g) a circling procedure if the operator has circling limits below 1000 feet and three miles visibility;
  - h) approaches to two different stalls, on initial PPC;
  - i) steep turn (45° of bank) through at least 180°, and
  - j) a holding.

Unless required by the operator's procedures, rejected take-offs are not normally demonstrated by co-pilots. A verbal check of his duties during this emergency condition will satisfy the requirement.

Approach to stalls will be conducted on initial PPCs only, or if the examiner deems a repeat is necessary, to establish the candidate's currency on the aeroplane.

Approach to stalls in an aeroplane will not be conducted at altitudes less than 5000 feet above ground/water or less than 1000 feet above a well defined cloud top with a horizon.

## 8 Assessment Guidelines

### General

- 8.1 It is impossible to define all instances when a particular exercise may be rated "S", "U" or "SB". However, it is possible to examine each sequence of a check ride and test its validity against the definition for each rating. By applying this test to all exercises, standardization can be achieved in check ride assessments. Each sequence of the check ride, including any errors or mistakes, shall be evaluated with respect to the rating definitions.

Common errors and rating assessments are described by a variety of adjectives. Terms such as (un)acceptable, (un)satisfactory, timely, safe, minor, slight, brief, lack, inadequate and excessive are used to describe the candidates' performance. It is difficult to objectively define these adjectives; however, the dictionary definition may be used to provide amplification of meaning and thereby standardization in application. Terms such as (in)complete, (in)correct, exceed and failure are more finite and may be objectively described by referring to the appropriate regulation, AFM or company procedure.



- 8.2 The assessment guidelines shall be used as a reference by examiners when determining the rating to be awarded for specific flight test sequences. The guidelines are not intended to be restrictive, or to define all common errors. Examiners must use knowledge and experience in conjunction with the rating definitions to arrive at their assessments.
- 8.3 In order for a checkride to receive a General Assessment of “Failed”, at least one sequence must be assessed as “U”. It also follows that, when any individual sequence has been assessed as “U”, the PPC must receive a General Assessment of “Failed”. A PPC for which all sequences have been assessed as “S” or “SB” must receive a General Assessment of “Pass”, regardless of how many sequences have received “SBs”.
- 8.4 During a PPC ride, a flight sequence may involve duties and /or responsibilities for crew members other than the “pilot flying”. A sequence that is rated as “unsatisfactory for the pilot flying that may be due to an inappropriate action on the part of other crew member, shall also be rated as “unsatisfactory” for the non-flying crew members. In such a case, it is possible that an assessment of “failed” may be given to more than one crew member involved in the same flight sequence.
- 8.5 During a PPC, any failure of an instrument rating related flight sequence constitutes a failure of the instrument rating and the examiner shall assess the instrument rating as "failed" at the bottom of the Pilot's Check Report. Appropriate administrative action must be carried out.
- 8.6 When an examiner decides that a pilot has failed during the course of a check, the check shall be terminated. The time remaining in the session may be used as training, provided that:
- the candidate is advised at the time of failure;
  - an examiner is a designated company training pilot on type;
  - upon completion of the training flight, the candidate is debriefed on the reason for failure;
  - an examiner completes the appropriate form and submits the original to CAA and places a copy on the candidate's training file; and
- 8.7 Instrument Rating Suspension Procedures are in section 12.
- 8.8 Instrument rating monitoring during a PPC:

The tolerances for instrument flight tests must be respected by all examiners. Each candidate must demonstrate aircraft control to maintain:

- assigned headings within 10 degrees;
- assigned tracks and bearings within 10 degrees;
- altitude within 100 feet except at MDA when accurate altitude control is required;
- airspeed within 10 knots for holding, approach and missed approach; and
- not more than half scale deflection, as appropriate to the airplane type, of the course deviation indicators during instrument approaches.

These criteria assume no unusual circumstances and may require allowances for momentary variations. The exact rating definition and tolerances to be applied during a particular sequence may be modified by such things as weather, turbulence, simulated malfunction and type of approach.

As the instrument rating is valid for a period of 12 months, the competency of each pilot to fly instrument procedures will be monitored during each PPC done during the validity period of the Instrument Rating. If a pilot fails to demonstrate an adequate level of competency in those sequences mandatory for instrument flying competence, that pilot's Instrument Rating shall be suspended by an examiner conducting that PPC. That pilot would then have to pass an IR PPC prior to resuming IFR flying duties with an air operator.

## 9 Assessment Standards

Each sequence of the check ride may be graded according to the following assessment standards and rating definitions. The appropriate rating for each exercise must be recorded on the applicable form and any sequence graded “SB” or “U” requires a narrative in the comments section of the form.

The inter-relationship of flight crew coordination and airplane systems as it relates to automation may cause errors made during the completion of one exercise to affect the ratings of several sequences.

### 9.1 Ratings

#### 9.2 Satisfactory (S)

A sequence shall be rated **Satisfactory** if:

- a) it contains minor errors only;
- b) airspeed and altitude control are acceptable for prevailing conditions; and
- c) airplane handling and knowledge are acceptable and safe considering the experience of the candidate.

#### 9.3 Satisfactory with Briefing (SB)

A sequence shall be rated **satisfactory with briefing** when:

- a) airplane handling and knowledge are safe but of a lower standard than would be expected and any deficiency can be corrected during debriefing;
- b) the candidate had a brief excursion from published tolerances but initiated corrective action;
- c) a sequence deviates from standard procedures or practices but does not create a more hazardous situation and is repeated satisfactorily or clarified by the candidate during debriefing;
- d) there is a deviation from standard procedures or practices which the candidate acknowledged without prompting, that does not create a more hazardous condition and from which the candidate can recover unassisted; or
- e) the candidate experienced some difficulty or required slight prompting from the other crew member to satisfactorily accomplish a task.

Although not required, provided it is not listed as a fail item, a procedure or sequence that would normally be rated as an “SB” may be repeated at the discretion of the check pilot. Examiners shall refrain from teaching or briefing the candidate on the correct completion of the exercise.

#### 9.4 Unsatisfactory (U)

If a sequence cannot be rated *Satisfactory* or *Satisfactory with Briefing* according to the preceding guidelines, it shall be rated *Unsatisfactory*.

A sequence shall also be rated **Unsatisfactory** if:

- a) it endangers the airplane, passengers or crew;
- b) it results in a crash;
- c) multiple errors are made in the completion of any one exercise;
- d) it violates an ATC clearance or altitude;
- e) the aim of the exercise is complete but there is a major deviation from standard procedures or practices or the safety of the airplane was jeopardized;
- f) the candidate required continual prompting or help from the other crew member to complete a task;
- g) it exceeds airplane limitations; or
- h) the candidate demonstrates unsatisfactory knowledge of airplane systems, equipment, or procedures.

## 10 Pilot Proficiency Check

### General

To evaluate the overall technical proficiency, communications skills, leadership and situational awareness of pilots with respect to normal and abnormal procedures, examiners must closely observe the performance of each crew. To evaluate specific items, the aeroplane proficiency check shall be conducted in a manner that enables the pilots to demonstrate knowledge and skill with respect to such things as pilot decision making, crew coordination, airplane automation, FMS programming, auto-flight systems and flight mode awareness.

The following describes the exercises to be completed during a PPC, as appropriate to the airplane type, and lists some common errors that may be observed. Examiners must make reference to the applicable schedule to ensure all required sequences are covered in the check ride scenario.

### **Pre-Flight Phase**

#### 10.1 Flight Planning

The crew must demonstrate adequate knowledge of the company's SOPs and AFM, including runway performance charts, to effectively plan a flight.

Some common errors that may affect the assessment are:

- a) lack of proper charts and manuals;
- b) inadequate knowledge of, or proficiency in, the interpretation of performance charts; or
- c) failure to check fuel load adequate for the intended flight.

#### 10.2 Equipment Examination

The crew must provide proof of successful completion of an equipment examination taken in conjunction with initial or recurrent training. In exceptional circumstances and if the candidate agrees an oral examination may be administered by the check pilot.

### **Flight Phase**

#### 10.3 Taxiing and Flight Preparation

Flight preparation and taxiing are completed as a crew exercise and need only be demonstrated once when the captain and first officer perform the duties of their assigned seat position.

Inspection of the airplane, required de-icing procedures and airplane documents must be in accordance with the AOM or AFM and the air operator's procedures manual. The approved check list must be followed. No item shall be missed or processed out of sequence. The pilot-in-command must ensure adequate ramp safety for start, push back/power back, and taxi. The airplane radios and instruments shall be checked and set up in accordance with prevailing departure procedures and weather. Any airplane system required due to weather, navigational requirements or crew composition shall be checked and set for take-off, i.e., weather radar, de-icing equipment, heaters, on board navigation equipment, auto-pilot, auto-throttles, FMS, etc.

Crews shall refrain from any activity that would compromise lookout on the ramp or taxiway, and control audio inputs from outside and within the airplane to ensure compliance with ATC direction or clearance, i.e., judicious use of company frequencies, cockpit chatter, etc.

Assessment must be based on the crew's ability to safely inspect and prepare the airplane for flight. All checks and procedures must be carried out according to the AOM and company SOPs.

#### 10.4 Engine Checks

Engine checks shall be conducted by each crew according to the AFM and company SOPs as appropriate to the airplane type.

#### 10.5 Take-Off

Each pilot must perform the take-off exercises detailed in the appropriate Schedule I. A complete take-off briefing need only be completed once by each crew. Discussing specific safety items, or changes to the original departure, constitute an acceptable briefing for subsequent take-offs.

An examiner must ensure that published cockpit procedures and correct airspeeds are observed during ground roll and lift-off. The airplane should be rotated smoothly to the correct pitch angle, with a satisfactory rate of climb and required airspeed attained in a reasonable time. Engine handling must be smooth and positive and the correct power setting used and monitored.

Some common errors that may be observed and affect the assessment of the sequence are:

- a) checks not complete, or out of sequence;
- b) use of incorrect speeds or power settings;

- c) incorrect take-off technique;
- d) mishandling of throttles or thrust levers;
- e) loss of directional control, or using incorrect control input to correct adverse yaw during the take-off roll;
- f) exceeding engine or airframe limitations;
- g) rotation before, or lift-off at an airspeed less than,  $V_{MCA}$  or  $V_R$ ; or
- h) an incorrect or incomplete check resulting in a vital item being missed.

#### 10.6 Rejected Take-Off (where it can be safely demonstrated)

A rejected take-off shall be completed by each crew, as appropriate to the airplane type, during which the captain and first officer perform the applicable duties of their assigned seat position.

After the take-off roll has begun and the airplane has attained not more than 50% of lift-off speed, a simulated system failure or condition should be introduced which requires a rejected take-off. This airspeed restriction applies only to PPCs conducted in an airplane.

Some common errors that may be observed and affect the assessment of the sequence are:

- a) failure to alert crew with the appropriate call, if applicable, e.g., “*Rejecting Take-Off*”;
- b) failure to maximize use of brakes and/or improper handling of stopping devices;
- c) failure to alert ATC to emergency, and request assistance;
- d) failure to advise cabin crew of type of emergency and initiate appropriate evacuation procedures (if any);
- e) failure to complete emergency checks and/or power plant(s) shutdown if required;
- f) failure to recognize the need to initiate a rejected take-off prior to  $V_1$ ;
- g) failure to maintain control of the airplane or stop within the confines of the runway; or
- h) endangering the safety of passengers and crew and/or rescue personnel through improper handling of the emergency condition.

### **Instrument Procedures**

#### 10.7 Area Departure, En-route, And Arrival

Each pilot shall demonstrate departure, en-route and arrival maneuvers.

The Examiner must ensure that the candidate adheres to any clearance, whether actual or simulated, and that the candidate understands and follows the guidelines in SIDs, STARs and published transitions, as well as noise abatement procedures. Each pilot must demonstrate proper use of navigational equipment including the FMS.

Some common errors that may be observed and affect the rating of the sequences are:

- a) not familiar with, or failure to follow, a SID, STAR or transition;
- b) failure to adhere to noise abatement procedures;
- c) incorrect selection of radio aids or failure to properly identify facilities;
- d) altitude, heading or airspeed allowed to deviate due to pre-occupation or poor cockpit management of workload;
- e) an attempt made to follow a procedure that would violate an ATC clearance or endanger the airplane;
- f) departure or arrival not correctly programmed or failure to monitor the flight guidance modes;
- g) inability to program and fly an altitude crossing restriction or lateral offset;
- h) failure to select and display FMS pages according to company SOPs; or
- i) inability to correctly program the FMS for a change of destination or to activate the alternate flight plan.

#### 10.8 Holding

Each pilot shall conduct a holding procedure consisting of entry, the hold and exit as appropriate to the aeroplane type and company SOPs. For FMS equipped aircraft, each pilot must demonstrate the ability to program a hold and clear it but at the discretion of the check pilot, only one hold is required to be flown. Flying the hold for the second crew member is not required.

An examiner must ensure that the method of entry is in accordance with the published procedure and ATC clearance. Speed, control and timing shall be in accordance with established procedures.

Some common errors that may affect the assessment of the sequence are:

- a) failure to obtain a current altimeter setting and to set and cross check the altimeters according to company SOPs;
- b) failure to obtain an expected approach time (EAT);
- c) failure to adjust power settings according to the company SOPs;
- d) poor tracking or incorrect allowance for wind;
- e) failure to establish a holding pattern using published procedures;
- f) failure to fly the holding pattern as prescribed;
- g) allowing the airplane to exceed an assigned airspeed or altitude limitation;
- h) violating the ATC clearance;
- i) inability to correctly program and execute the hold procedure with the FMS;
- j) unable to effectively clear the hold from the FMS or to depart the holding pattern; or
- k) failure to select the correct auto-flight modes for lateral navigation and airspeed control.

#### 10.9 Instrument Approaches

Each pilot must complete the requisite number and type of instrument approaches as detailed in the appropriate schedule of the MCARs. Each crew must conduct a managed and non-managed (or VNAV) approach if applicable to the airplane type. One approach must be made with a simulated engine failure.

Each crew must demonstrate one Category II or Category III approach, where these procedures are authorized in an air operator certificate.

An examiners will pay particular attention to the briefing, when operating in a multiple crew environment, to ensure it is in accordance with the Air Operator's SOPs or covers a review of the:

- a) type of approach to be conducted;
- b) missed approach procedure; and
- c) landing configuration.

Altimeters shall be set to the current local altimeter setting. If a remote altimeter setting is to be used, due allowance for error in the form of a correction factor shall be applied to the various published altitudes.

Assess the candidate's ability to organize and share the cockpit workload, in respect to crew resource management, by ensuring adherence to company SOPs.

Some errors common to all Instrument Approaches that may affect the rating of the exercise are:

- a) not familiar with published transitions;
- b) not using the correct radials or tracks;
- c) incorrect selection of radio aids or failure to properly identify facilities;
- d) descent below procedure turn altitude too early or too late;
- e) no altimeter correction for cold weather temperatures;
- f) unable to properly program the FMS for the type of approach;
- g) not sure when to leave last assigned altitude for transition, initial, or procedure turn altitude when cleared for the approach;
- h) not monitoring raw data for the approach;
- i) failure to conduct a navigation accuracy checks, if required;
- j) failure to respect step down fixes;
- k) improper ND mode selected for type of approach;
- l) slow to make corrections or change modes when tracking is outside tolerances;
- m) not monitoring all required approach aids;
- n) loss of separation with other airplane due to incorrect interpretation or failure to follow a clearance or published approach procedure;
- o) crew duties, including monitoring and verbal call-outs, not in accordance with company SOPs;
- p) commencing a missed approach either too early or too late because of poor speed control, wind effect, navigation or timing;
- q) airplane not in a position to land due to lateral or vertical misalignment or too high an airspeed at DH, MDA or on turning final from a circling procedure;

- r) failure to initiate a go-around in accordance with the published airplane and company procedures;
- s) configuring the airplane inappropriately for the phase of flight; or
- t) maneuvering the airplane inappropriately for the phase of flight.

Some common errors on Non-Precision Approaches that may be observed and affect the rating of the exercise are:

- a) failure to establish a drift angle on the inbound track;
- b) arriving over the FAF on final too high and/or fast;
- c) reaching MDA too late;
- d) failure to establish the correct MAP;
- e) inability to program and fly a managed or VNAV approach as appropriate to the airplane type; or
- f) airplane incorrectly configured at FAF.

Some common errors on Precision Approaches that may be observed and affect the assessment of the sequence are:

- a) slow to react to ATC instructions or to instrument deviations, resulting in poor tracking of the localizer or glide slope;
- b) airplane not stabilized and at the correct airspeed on the final approach and upon reaching DH;
- c) failure to monitor airplane and ground equipment required for the approach; or
- d) using incorrect company procedures for the conduct of Category I, II or III approaches.

#### 10.10 Circling Approaches

A circling approach will not be conducted in weather conditions less than the minimum published in Aeronautical Information Publication (AIP). If the candidate should lose sight of the intended runway of landing, he/she shall commence a missed approach in accordance with published procedures.

Some common errors that may affect the assessment of this sequence are:

- a) no briefing on the type of circling approach to be used;
- b) not designating which pilot will fly the circling approach;
- c) failure to monitor and inform the pilot flying of deviations in airspeed or altitude;
- d) exceeding 30° of bank or poor final alignment with the runway;
- e) gross upward deviations in altitude or circling below circling altitude; or
- f) not maintaining correct airspeed or failure to align airplane with runway to effect a safe landing.

#### 10.11 Landings and Missed Approaches

Each pilot must complete the landing exercises detailed in the appropriate Schedule I.

#### 10.12 Missed Approach or Rejected Landing

A missed approach may be carried out at any time from intercepting final approach to touch down on the runway. The published missed approach profile must be followed except where it is modified by ATC. Rejected landings may be carried out at any time after the instrument portion of the approach is complete, the runway is in sight and the airplane is configured and has started its final descent to landing.

Some common errors that may affect the assessment of this sequence are:

- a) not utilizing power and attitude to achieve a satisfactory climb profile;
- b) not following the published profile or ATC clearance;
- c) maneuvering the airplane inappropriately for the phase of flight;
- d) failure to ensure that required checks are completed;
- e) improper programming of FMS;
- f) not establishing or monitoring the missed approach guidance mode;
- g) missed approach altitude not set for auto flight system; or
- h) delayed or forgotten airplane checks.

#### 10.13 Landings

Landings and approaches to landings must be conducted according to the AOM and company procedures. The actual landing and roll-out must be assessed by the check pilot.

Some common errors that may affect the assessment of this sequence are:

- a) initiating the flare too early or too late;
- b) excessive body angle or roll on touch down;
- c) late or incorrect de-rotation rate;
- d) over controlling on short final;
- e) maneuvering the airplane inappropriately for the phase of flight;
- f) poor or no cross wind correction;
- g) improper use, or selection, of auto-brake;
- h) attempted landing without completing required checks; or
- i) failure to track the runway on roll-out.

#### 10.14 Steep Turns

If required, the candidate's ability to maintain bank angle, altitude and airspeed should be checked in one or more 45° bank turns through at least 180°. He/she should be allowed to stabilize the airplane at the required altitude and airspeed before starting the turn(s).

Some common errors that may be observed and affect the assessment of the sequence are;

- a) failure to maintain bank angle;
- b) failure to maintain airspeed; or
- c) failure to maintain altitude.

#### 10.15 Approach to the Stall/Stall Procedures

If required, approach to the stall/stall procedures are carried out on PPCs to ensure the candidate is familiar with the stall warning devices and airframe response to the onset of the stall condition. Care must be exercised to ensure that limitations imposed by the AFM are not exceeded in the event an approach to the stall is made with warning devices deactivated (if authorized in the flight manual). The exercise may be carried out with the airplane in either the take-off, clean or landing configuration.

Some common errors that may affect the assessment of the exercise are:

- a) incorrect application of power;
- b) allowing the nose to come up prior to safety speed being attained during recovery resulting in secondary stall or stall warning;
- c) not recovering lost altitude when safety speed attained;
- d) a significant altitude loss; or
- e) incorrect recovery procedure or airplane configuration.

#### 10.16 Normal Procedures

When assessing normal procedures, the check pilot must ensure the crew demonstrates adequate knowledge of the company SOPs and airplane systems to confirm their ability to properly use installed equipment. In addition, airplane operation must be assessed with specific reference to those items requiring crew coordination and discipline.

The crew shall demonstrate use of as many of the air operator's approved Standard Operating Procedures and normal procedures as are necessary to confirm that the crew has the knowledge and ability to properly use installed equipment including FMS, auto-pilot and hand flown maneuvers as appropriate.

#### 10.17 Automation and Technology

Electronic flight instruments, navigation instruments, automated flight management and guidance systems and electronic airplane monitoring systems represent a significant level of automation in cockpit design. As a result of these features, training and checking programs must address each element of automation represented in the applicable airplane. The complete integration and relationship of these systems to airplane operation must also be addressed and assessed by the check pilot.

The crew's management of automation and its effect on situational awareness must be observed during proficiency checks. Situational awareness is defined for the purpose of check ride assessment as "the

crew's knowledge and understanding of the present and future status of the airplane and its systems." Flight path, terrain, system status, airplane configuration and energy awareness are all important aspects of situation awareness required for the operation of modern airplane.

All modern passenger airplanes have different levels of automation. Each pilot shall be assessed on their knowledge and ability to effectively use and interpret the airplane checklist and alerting equipment, flight management and navigation equipment, auto flight system and the flight mode annunciation. An assessment must be recorded on the pilot check report form. The following subheadings should be used as a guide when assessing the crew's knowledge of airplane automation; however, different combinations of automation in some airplane types may require a type-specific narrative to substantiate the rating assessment.

### ***Airplane Checklist and Alerting System***

Airplane manufacturers have developed different levels of automation for crew alerting devices. Candidates must demonstrate a satisfactory knowledge of airplane checklist and alerting systems appropriate to the airplane type. Effective use of the checklist and/or ECAM/EICAS can be confirmed by each crew member's adherence to company SOPs, and by their demonstration of knowledge, ability and discipline during normal and abnormal procedures.

Each pilot shall demonstrate procedures of sufficient complexity and detail to confirm adequate knowledge, ability and discipline to effectively use the checklist or ECAM/EICAS system as appropriate to the airplane type.

Some common errors that may affect the assessment of this sequence are:

- a) not maintaining proper crew coordination and discipline while completing a checklist or procedure;
- b) clearing ECAM before confirmation by the PF;
- c) failure to review the airplane status;
- d) improper division of duties during ECAM/EICAS procedures;
- e) inadequate knowledge of airplane systems to allow proper completion of procedures;
- f) inadequate knowledge of QRH and/or ECAM/EICAS procedures or content;
- g) failure to clear hard tuned ECAM pages thereby restricting auto-tuned pages;
- h) not informing PF when ECAM/EICAS or checklist procedure is complete; or
- i) failure to correctly prioritise procedures and checklists.

### ***FMS Programming***

Each crew member shall demonstrate satisfactory knowledge of FMS procedures. Examiners must ensure crew familiarity with the operation of flight management and guidance systems in all phases of flight as appropriate to the airplane type. Sufficient procedures, appropriate to the airplane type, must be demonstrated by each crew to confirm adequate knowledge, ability and discipline in the use of the FMS system. On initial proficiency checks each pilot shall demonstrate FMS programming for departure, en-route, arrival, approach, alternate, change of destination and holding procedures. In addition, each crew shall demonstrate programming for lateral offset and altitude crossing restriction maneuvers. During recurrent proficiency checks, crews must demonstrate satisfactory knowledge of sufficient FMS procedures to complete the check ride scenario.

Some common errors that may be observed and affect the rating of the sequence are:

- a) not familiar with company SOPs regarding the use of the FMS;
- b) multiple programming errors;
- c) excessive time required to program the intended flight;
- d) incorrect or incomplete data entries;
- e) unable to program a procedure or sequence due to lack of knowledge of the FMS;
- f) unable to recover a portion of the flight plan if inadvertently erased;
- g) failure to recognize and take corrective action when programmed FMS navigation is not satisfactory or not in accordance with clearance;
- h) one crew member requires prompting or help from the other crew member in order to program FMS; or
- i) not checking accuracy of entered data.



### *Auto Flight Systems/Flight Mode Awareness*

For all highly automated airplanes, giving sometimes a subtle mode changes that can occur with regard to flight path management and the auto-throttle system, disciplined monitoring and crew coordination associated with flight mode indications is essential to safe operations. Reference to the flight mode annunciation as well as a thorough understanding of all status, armed and engagement indications is essential to the successful operation of the auto-flight system.

Examiners shall ensure flight crews have a sound knowledge of mode awareness and mode transitions as they occur, regardless of whether initiated by the flight crew or by a system response to design logic. Crews must satisfactorily demonstrate an understanding of the means to transition from or between various levels of automation to manual control and back to automation. They must also demonstrate a clear understanding of the conditions or situations in which it is appropriate to do so.

Some common errors that may affect the assessment of this sequence are:

- a) failure to enunciate or recognize mode changes according to the company SOP;
- b) failure to understand the effect or meaning of mode changes;
- c) failure to take manual control or select a different auto-flight mode when required;
- d) not making use of appropriate auto-flight systems when workload is high;
- e) incorrect auto-flight mode engaged or failure to correctly transition between modes;
- f) loss of situational awareness due to unnoticed direct or indirect auto-flight mode changes;
- g) failure of PNF to cross check mode changes; or
- h) unaware of mode changes initiated by system logic.

#### 10.18 Pilot Not Flying Duties

Automation in airplane design requires strict adherence to procedures associated with each crew position. To check the proper division of duties between the PF and the PNF requires observation during normal and abnormal procedures. Examiners must ensure satisfactory compliance with PNF duties as detailed in the AOM and company SOPs.

Normally an error in PNF duties shall be observed during such things as FMS programming, checklist procedures or general cockpit duties specified in company SOPs. Examiners must rate PNF duties on the applicable form. If the sequence is rated “S/B” or “U”, a narrative identifying the specific area(s) of concern must be included.

Each pilot shall demonstrate PNF duties sufficient to determine compliance with, and knowledge of, airplane procedures and company SOPs. This shall include normal and abnormal procedures while operating as PNF in the seat normally occupied by the crew member.

Some common errors that may affect the rating of this sequence are:

- a) not familiar with PNF duties;
- b) PNF required excessive help from PF to accomplish tasks;
- c) completing duties assigned to the PF without direction;
- d) not maintaining crew discipline during abnormal procedures;
- e) not familiar with procedures contained in QRH or paper checklists;
- f) incorrect FMS programming; or
- g) completing a procedure or checklist in such a way that the airplane is left in a degraded state or the effect of the required procedure is negated.

#### 10.19 Crew Coordination

An assessment of crew coordination is required for proficiency checks on airplane with two or more crew members. The actions of the individual should contribute to the overall effectiveness of the crew during normal, abnormal, and emergency situations. Crew coordination and cockpit resource management in each required sequence, while observed individually, have an interrelationship in the overall operation of the airplane and require consolidation in one rating.

Each crew must demonstrate effective crew coordination. Procedures utilized by the crew members shall be in accordance with company Standard Operating Procedures.

Some common errors that may affect the rating of this sequence are:

- a) failure to complete duties as described in the company SOPs;
- b) completing duties of other crew members;
- c) failure to heed warnings of other crew members;
- d) loss of situational awareness due to ineffective crew coordination or communication;
- e) failure to alert other crew members to potentially hazardous situations;
- f) failure to effectively share workload with other crew members;
- g) inability to maintain cockpit discipline;
- h) overall crew lack of awareness of, or attention to, flight mode annunciation; or
- i) tendency to deviate from SOPs when workload increases.

#### 10.20 Pilot Decision Making

Decision making capability for all crew members shall be assessed during proficiency checks. This must include command capability as well as normal cockpit decisions required during a flight. Each pilot shall demonstrate the ability to make timely and effective decisions and to delegate tasks to other crew members.

Some common errors that may affect the rating of this sequence are:

- a) failure to make decisions in a timely and effective manner;
- b) poor decision making due to inadequate knowledge;
- c) not utilizing all available crew and company resources;
- d) failure to consider all available information;
- e) failure to initiate normal, abnormal or emergency procedures;
- f) failure to provide leadership as required by the cockpit position and company SOPs; or
- g) failure to heed warnings of other crew members.

#### 10.21 System Malfunctions

The candidate must demonstrate adequate knowledge to diagnose malfunctions of airplane components or systems in a reasonable time and to take corrective action on those critical emergencies designated as memory checks in the AFM without reference to a check list or manual. The candidate must be familiar with alternate components, systems, procedures and any restrictions to continued flight predicated on their use and must develop a course of action that makes allowance for any further degradation in the airplane airworthiness status. Proper knowledge and discipline in the use of the ECAM/EICAS systems must be demonstrated by both crew members.

Abnormal procedures should be of sufficient complexity to allow each crew member to demonstrate the handling of primary and secondary failures and paper checklist procedures appropriate to the airplane type. Normally a minimum of two different systems malfunctions for each pilot is required to adequately demonstrate knowledge and ability. One of the required engine failures may be included as one of the required systems malfunctions. Multiple, unrelated failures that have a cumulative effect on the operation of the airplane must not be planned as part of the ride scenario. For example, a configuration problem combined with a power plant failure have a cumulative effect requiring excessive work during the final approach and should not be simulated. Conversely, an emergency descent followed by a configuration problem or engine failure does not have a cumulative effect on workload during a single phase of flight and may be planned. Any unrelated malfunctions that are a result of crew actions shall not be corrected by the check pilot.

Some common errors that may affect the assessment of this sequence are:

- a) inability to identify a malfunction or incorrect diagnosis of the malfunction;
- b) inadequate knowledge of the procedures required to deal with an emergency, or failure to carry out vital actions in an acceptable time period;
- c) loss of situational awareness during the completion of required checklists or procedures;
- d) failure to correctly carry out secondary actions to determine limitations imposed by the emergency on the remaining systems;
- e) checks/procedures not in accordance with the *AFM* and SOP manual;
- f) failure to carry out a vital action thereby jeopardizing the safety of the airplane;
- g) exceeding airplane or engine limitations; or
- h) improper ECAM/EICAS crew discipline.

## 11 Safe In-Flight Checking Practices

### 11.1 Checking Philosophy

- a) No list of “Do’s” or “Don’ts” can cater to all the situations that may occur during in-flight tests or checks. MCAA therefore relies on the ability of its examiners to fully assess the consequences of their actions and demands. Flight safety shall always take top priority.
- b) One of the purposes of any in-flight test or check is to enable a candidate to demonstrate his/her ability to operate a given aircraft in accordance with prescribed standards, limitations and procedures. There is no need whatsoever to place a flight crew member in a position in which he/she may have to call upon superior knowledge and skills to ensure successful recovery.
- c) The practices described in the succeeding paragraphs form part of MCAA philosophy towards safe in-flight checking. Examiners are required to abide by these practices. Air carriers may have in-flight checking practices that are more restrictive than those described below. Examiners shall in such cases adhere to the most limiting practice.

### 11.2 General

- a) Make every effort to make candidates feel at ease. Be realistic in your demands and simulations.
- b) Always give candidates a thorough briefing before flight. Such briefings shall be conducted using the guidelines given in section 6.6 of the Designated Check Pilot Manual. Particular emphasis must be placed on ensuring that all participants have a clear understanding of:
  - (i) the purpose and scope of the test or check;
  - (ii) the outline of the proposed sequence of events;
  - (iii) any aircraft or operational restrictions imposed to enhance safety;
  - (iv) the respective role, including that of the examiner, and what is expected from the candidates; and
  - (v) who the designated pilot-in-command is.
- c) Considering the aircraft involved, determine the weather conditions (visual vs. instrument meteorological conditions (VMC vs. IMC), thunderstorms, wind, etc.) outside of which the test or check should not take place or continue.
- d) Verify aircraft dual control availability, including brakes (several aircraft types have brake pedals on the left side only), to prevent any last split second surprise, and discuss the effects of any unusual features on the conduct of the test or check.
- e) Ensure radio communications between candidates and ATS can be monitored (serviceable and functioning headset assembly or cockpit/cabin loudspeaker).
- f) Maintain good lookout during the flight.
- g) Discuss action to be taken by flight crew members before any crew leaves their station (e.g., seat change, short duration absences, etc).

### 11.3 Safe In-flight Checking Practices - Operational

- a) Aircraft Systems  
Never change the position of any system control without the pilot-in-command's consent, except for simulating failures, and then only following proper, prior warning to the flight crew members.
- b) Approach to Stall
  - 1) Required on initial PPC only;
  - 2) To be performed in the appropriate simulator in lieu of aircraft whenever available; and
  - 3) When demonstration in the aircraft is required, the practices given below must be adhered to:
    - A. ensure recovery is initiated on first symptoms of a stall,
    - B. do not initiate below the minimum altitude recommended in the Aircraft Flight Manual (AFM) or Aircraft Operating Manual (AOM), and in no case below 5,000 feet AGL;
    - C. in clouds;
    - D. on top of clouds unless a well defined horizon is available; or
    - E. below 2,000 feet above the top of well defined clouds.
- c) Balked Landing (All Engines Operating)  
Do not initiate below:
  - 1) 50 feet AGL; and
  - 2) indicated airspeed (IAS) normally used for flap setting selected during final approach.
- d) Circuit Breakers  
Never pull any circuit breaker to simulate equipment failure.
- e) Dutch Roll  
To be performed in appropriate simulator only.

- f) Emergency/Rapid Descent  
All Aeroplanes (Simulator not available)
  - 1) To be performed in appropriate simulator when available.Airline Operators (Simulator not available)
  - 1) To be completed at 10,000 feet AMSL, or 2,000 feet above lowest useable minimum en-route altitude (MEA), whichever is higher.
- g) Engine Failure(s) on Take-Off (Before Decision Speed)
  - 1) Both for safety and maximum training value, rejected take-offs should be conducted in the simulator for the type, when available; and
  - 2) If a simulator is not available, then a thorough briefing of what the actions of the PF and PNF in the event of a RTO is sufficient. RTO's will not be conducted in the actual aeroplane. The candidate should be briefed prior to the check-ride to anticipate the possibility of a rejected take-off. The examiner must be vigilant to ensure that the candidate does not strike the tail during the manoeuvre, due to an excessive nose high attitude during the flare and touchdown sequence.
- h) Engine Failure on Take-Off (After Decision Speed) - Aeroplanes  
No engine failure simulation should be initiated unless the conditions given below are met.
  - 1) Not below 400 feet AGL.
  - 2) Not below minimum control speed with critical engine inoperative (VMCA) plus 20 (KIAS), or take-off safety speed (V2) plus 10 KIAS, as applicable.
- i) Engine-Out Missed Approach  
(Do not confuse with "Balked Landing - All Engines Operating")  
Should not to be initiated unless the conditions specified below are met:
  - 1) Not below 50 feet AGL.
  - 2) Not below IAS normally used for flap setting selected during final approach.
- j) Flapless Approach  
To be cancelled at a minimum of 50 feet AGL and followed by a missed approach where flapless approach IAS exceeds normal landing flap approach IAS by more than 20 KIAS.
- k) Flight Controls - Manual Reversion  
To be performed in appropriate simulator only.
- l) Rejected Take-off  
To be performed in the appropriate simulator whenever available.
- m) Runaway Trim/Jammed Stabilizer  
To be performed in the appropriate simulator only.
- n) Stop and Go  
Not allowed, unless critical field length is available.
- o) Touch and Go  
Must meet critical field length or balanced field length requirements, as applicable.

## 12 Administrative Procedures - following an unsuccessful check-ride

### 12.1 Administrative procedures when acceptable standards have not been met by a pilot.

Such actions shall include:

- a) notifying the Training Manager of failed items and recommendations as to corrective action;
- b) ensuring that grades and evaluation of the failed check are recorded in the individual's training and check records. A PPC report shall be completed for each flight check, including any terminated during pre-flight preparation, or before all air exercises are completed;
- c) immediately notifying MCAA that the pilot has not met the standards for a PPC or instrument rating. An examiner may conduct a re-test of a failed PPC or IRT. A second re-test of a failed PPC or IRT must be conducted by an Inspector; and
- d) suspension of an instrument rating when the pilot fails to demonstrate an adequate level of competency in those sequences which form the Standards for the instrument rating. Examiner will immediately notify the Training Manager who will ensure that a notice of suspension or cancellation is issued.

**NOTE:** The procedures outlined in paragraphs a, b, and c are also applicable to unsuccessful line Checks.