Flight Examiner's Manual

for Aeroplanes and Helicopters

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Abstract:	This Flight Examiner's Manual has to be taken as a guidance and instruction for the flight examiners in the respective valid version. This Manual is applicable for all examiners.
Abstrakt:	Dieses Handbuch ist für jeden Examiner gedacht, als Hilfestellung und Orientierung zur Vorbereitung als auch während Ihrer Prüfungstätigkeiten und Aufgabenbereiche. Als Ansprechpartner / bei Fragen ist flugschulen@austrocontrol.at zu kontaktieren.
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0. Actual changes to the prior version

Completely revised.

1. Purpose

This Flight Examiner's Manual has to be taken as a guidance and instruction for the flight examiners in the respective valid version.

2. Scope

This Manual is applicable for all examiners.

3. Flight Examiner's Manual

This manual "Flight Examiner's Manual" is published as an appendix to the Civil Aircrew Notice ("Zivillutfahrtpersonal-Hinweis") FCL 5 (LSA320-01/07-14) and in accordance with Commission Regulation No 290/2012, the so called EASA Aircrew Regulation, which amended Commission Regulation (EU) No 1178/2011, entered into force on 8 April 2012.

The intention and purpose of this document is to offer guidance on how to adhere to EASA Aircrew Regulation or statute laws. Whilst every effort is made to ensure that all information is correct at the time of publication, Austro Control reserves the right to amend this document as required to accommodate changes to the primary authority documents, to correct errors and omissions, or to reflect changes to policies and best practices.

Furthermore, the document is intended to provide all examiners with a convenient and current reference in how to perform their examining duties. It is essential that examiners use current and standardised practices.

References and extracts from Part-FCL are for guidance only. Competent authorities and examiners should not rely on those references and extracts unless they are checked against the most recent version of the Aircrew Regulation and its GM and AMC material. Where the content of this document conflicts with the official publication the official publication must be used.

Introduction and Limitations

Important notice:

Every examiner is responsible to check the latest version of FEM before conducting check flights. Feedback is highly appreciated and can be sent to: flugschulen@austrocontrol.at

Limits published in the FEM must be adhered to.
Exception: higher limits published in the applicable operation manual, training manual, AFM/POH.

The FEM comprises 9 modules. The FEM is intended to be the main reference manual for the training and subsequent reference of examiners.

Each module contains quick reference tables.

These are intended to provide the examiner with a precise description of the essential requirements for each test/check.

General

Examiners have to be fit, firm and fair for their duty when carrying out examiner privileges. All related documents have to be filled out correctly.

Examiners must be aware of the fact, that they are responsible to Austro Control only and not to an operator or training organisation.

Every examiner must be aware of the main purpose of a test or check:

1. Determine through practical demonstration during a test or check that an applicant has acquired or maintained the required level of knowledge and skill or proficiency.
2. Improve training and flight instruction in ATOs by feedback of information from examiners about items or sections of tests or checks that are most frequently failed.
3. Assist in maintaining and, where possible, improving air safety standards.
4. In case of a fail of the conduction of the check the examiner has to inform the applicant that the second attempt has to be conducted by an examiner explicitly designated by the competent authority.

The following table describes the purpose of each Module

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A guide to the conduction of an assessment of competence

Limitations for check flights on AEROPLANES

During examination flights no additional person without special duties shall be carried on board.

Malfunction/Emergency Training:

Before the flight, the examiner has to perform a risk assessment especially in regard to the planned malfunction/emergency training to determine the magnitude of risk and to establish whether measures are needed to stay within acceptable limits of safety.

1. Malfunction and emergency procedures are only allowed to be performed if the corresponding procedures are published in the manufacturer's manual.
2. Malfunction and emergency training in the aeroplane has to be performed via touch drill according to the restrictions of the AFM/POH. The exact procedure has to be briefed before the flight. The application priority of the procedure is as follows: first the published manufacturer's procedure and second procedures as trained by the ATO.
3. Pulling of circuit breakers in the aeroplane during flight or ground maneuvers for the simulation of malfunctions and emergencies is forbidden.
4. Actual engine shut down on the aeroplane is only allowed to be performed if required by the rules established in Part-FCL Appendix 9 and if a corresponding procedure is available in the AFM/POH. The following limitations have to be applied:
    I. Minimum altitude 4000ft AGL.
    II. VMC.
    III. Visual contact to the ground.
    IV. In gliding distance to the field.
    V. ATC informed (if applicable).
    VI. Landing has to be assured.
    VII. Procedures and limitations according AFM/POH have to be applied.
5. Minimum altitude for steep turns is 4000 ft above GND.
6. Conditions required for stalling exercises and unusual attitude recoveries:
    I. Minimum altitude 4000 ft AGL.
    II. VMC
    III. Visual contact to the ground.
    IV. Stall recovery procedure must be initiated at the onset of stall warning, perceptible buffet or other response to the initial stall entry.
    V. This exercise must be briefed extensively before the flight.
7. Simulated engine failure after T/O for SE aircraft:
    I. Minimum altitude 300ft above GND.
    II. This exercise must be briefed extensively before the flight.

Planning criteria for check flights:

1. Every limit published in AFM/POH/OM strictly applies. Wind gusts above the limit are not acceptable.
2. No flights disregarding MEL/CDL limits, if published.
3. T/O under weather conditions below LDG minimum is only allowed with a planned T/O alternate.
4. Lowest WX minimum for SE aeroplanes under IFR en-route: 1000ft cloud base / 1,5 km horizontal visibility
5. No flight shall be commenced without required documents and associated obligations regarding valid rules and regulations.
6. No flight shall be commenced without valid charts, updated database and flight planning documentation appropriate to the flight rules.

Limitations for check flights on HELICOPTERS

During examination flights no additional person without special duties shall be carried on board.

Malfunction/Emergency Training:

1. Prior entering emergency or malfunction procedures appropriate safety margins shall be taken into consideration by the examiner to enable corrective actions if they become necessary for the safety of the flight.
2. Malfunction and emergency procedures are only allowed to be performed if the corresponding procedures are published in the POH.
3. Malfunction and emergency checking in the helicopter are to be performed as touch drills only. The exact procedure has to be briefed before the flight.
4. Pulling of circuit breakers in the helicopter during flight or ground maneuvers for the simulation of malfunctions and emergencies is forbidden.
5. Where the test is conducted on a multi-engine helicopter a simulated engine failure drill, including a single-engine approach and landing, shall be included in the test. Maneuvers and procedures which are marked with M in the appropriate test or check form have to be conducted mandatorily.

Only MEH:

Actual shut down of one engine is only allowed to be performed if required by the rules established in Part-FCL Appendix 9. The following limitations have to be applied:

I. Minimum altitude 1000ft AGL.
II. VMC.
III. Visual contact to the ground.
IV. In gliding distance to the field.
V. ATC informed (if applicable).
VI. Landing has to be assured.
VII. Procedures and limitations according AFM/POH have to be applied.

Note:

The FE shall select four items from the following:

1. Engine malfunctions, including governor/FADEC failure, carburetor/engine icing, oil system, as appropriate
2. Fuel system malfunction
3. Electrical system malfunction
4. Hydraulic system malfunction, including approach and landing without hydraulics, as applicable
5. Main rotor and/or anti-torque system malfunction (FFS or discussion only)
6. Fire drills, including smoke control and removal, as applicable
7. Procedures regarding CAT A certification or equivalent for MEH laid down in the appropriate flight manual:

   Simulated Engine Failure before TODP
   Simulated Engine Failure after TODP
   Simulated Engine Failure before LDP
   Simulated Engine Failure after LDP

8. Autorotations (FE to select two items from - basic, range, low speed, and 360° turns), no full down autorotations shall be done, except autorotations from Hover IGE
9. Practice forced landing with power recovery (if applicable)

Planning criteria for check flights:

1. Every limit published in AFM/POH/OM strictly applies. Wind gusts above the limit from any side are not acceptable.
2. No flights disregarding MEL/CDL limits, if published.
3. Simulated instrument flying including recovery from unusual attitudes shall be carried out at safe altitude but no less than 1000ft AGL.
4. No flight shall be commenced without required documents and associated obligations regarding valid rules and regulations.
5. No flight shall be commenced without valid charts, updated database and flight planning documentation appropriate to the flight rules.
6. 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.

Pre-flight preparation requires the applicant to assess the weather conditions and decide whether to commence the flight. The applicant must take into account the requirements of all the sections of the check that he is supposed to make. The examiner has to assess the applicant's decision. A decision to continue when the weather is forecast below the limits required to complete the flight shall 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.

Module 1 – General Requirements

1. General

Register of Examiners

Austro Control will maintain a register of examiners, containing the files of examiners who meet the requirements for the approvals sought.

Examiners assessment of competence

The assessment of competence follows the provisions laid down in FCL.1020.

2. Use of "Dummies" during the acceptance test for an initial examiner authorisation

Definitions

It is necessary to clarify the roles of the respective members of the initial acceptance flight test as follows:

Applicant:	Pilot requiring a rating or certificate
Candidate:	Pilot requiring initial examiner authorisation
Dummy:	Pilot acting as an applicant not requiring a rating
Acceptance test:	Flight test conducted by a senior examiner (SEN) or inspector of ACG for an initial examiner authorisation. The purpose of the acceptance test is to prove that the candidate for an initial examiner authorisation is proficient and capable to undertake the duties of an examiner.

Demonstration of theoretical knowledge

The examiner applicant shall demonstrate to the inspector a satisfactory level of knowledge concerning regulatory requirements associated with the function of an examiner.

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.

"Dummy"

The primary duty of a 'dummy' is to act as an applicant in all aspects of the flight. During the flight it is important that he makes some errors (whether by accident or by design is not important), so that the candidate must observe, exercise judgement, assess and have something to debrief on. The 'dummy' is to include some obvious mistakes to be detected by the candidate. In general he must try to simulate a typical flight of a marginal applicant. The purpose of the flight is to ensure that the candidate 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 pilot.

Senior Examiner (SEN) or ACG Inspector

The SEN/Inspector must brief the candidate at the commencement of the exercise on their relative roles, i.e. the candidate 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 candidate.

3. Examiner qualifications and roles

Pilot-in-Command

When the candidate 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 SEN/Inspector has an overriding responsibility in avoiding dangerous situations, although he has no full access to controls.

Part-FCL Subpart K

There will be six roles of examiners as applicable for aeroplane, helicopter, airship, balloon and sailplane:

1. Flight Examiner (FE)
2. Type Rating Examiner (TRE)
3. Class Rating Examiner (CRE)
4. Instrument Rating Examiner (IRE)
5. Synthetic Flight Examiner (SFE)
6. Flight Instructor Examiner (FIE)

Summary of privileges for flight examiners

FE(A)	
Part-FCL reference:	FCL.1005.FE(a)
Privileges for PPL(A)	Skill tests for the issue of the PPL(A) and skill tests and proficiency checks for associated single-pilot class and type ratings, except for single-pilot high-performance complex aeroplanes, provided that the examiner has completed at least 1 000 hours of flight time as a pilot on aeroplanes or TMGs, including at least 250 hours of flight instruction.
Privileges for CPL(A)	Skill tests for the issue of the CPL(A) and skill tests and proficiency checks for the associated single-pilot class and type ratings, except for single-pilot high-performance complex aeroplanes, provided that the examiner has completed at least 2 000 hours of flight time as a pilot on aeroplanes or TMGs, including at least 250 hours of flight instruction.
Privileges for LAPL(A)	Skill tests and proficiency checks for the LAPL(A), provided that the examiner has completed at least 500 hours of flight time as a pilot on aeroplanes or TMGs, including at least 100 hours of flight instruction.
FE(H)	
Part-FCL reference:	FCL.1005.FE(b)
Privileges for PPL(H)	Skill tests for the issue of the PPL(H) and skill tests and proficiency checks for single-pilot single-engine helicopter type ratings endorsed on a PPL(H), provided that the examiner has completed 1 000 hours of flight time as a pilot on helicopters, including at least 250 hours of flight instruction.
Privileges for CPL(H)	Skill tests for the issue of the CPL(H) and skill tests and proficiency checks for single-pilot single-engine helicopter type ratings endorsed on a CPL(H), provided that the examiner has completed 2 000 hours of flight time as a pilot on helicopters, including at least 250 hours of flight instruction.
Type ratings for PPL(H) and CPL(H)	Skill tests and proficiency checks for single-pilot multi-engine helicopter type ratings endorsed on a PPL(H) or a CPL(H), provided that the examiner has met the requirements in (1) or (2), as applicable, and holds a CPL(H) or ATPL(H) and, when applicable, an IR(H).
Type ratings for LAPL(H)	Skill tests and proficiency checks for the LAPL(H), provided that the examiner has completed at least 500 hours of flight time as a pilot on helicopters, including at least 150 hours of flight instruction.

FE(As) AUTHORISATION	
Part-FCL reference:	FCL.1005.FE(c)
Type ratings for PPL(As) and CPL(As)	The privileges of an FE for airships are to conduct skill tests for the issue of the PPL(As) and CPL(As) and skill tests and proficiency checks for the associated airship type ratings, provided that the examiner has completed 500 hours of flight time as a pilot on airships, including 100 hours of flight instruction.
FE(S)	
Part-FCL reference:	FCL.1005.FE(d)
SPL and LAPL(S)	Skill tests and proficiency checks for the SPL and the LAPL(S), provided that the examiner has completed 300 hours of flight time as a pilot on sailplanes or powered sailplanes, including 150 hours or 300 launches of flight instruction.
Extension to commercial operations	Proficiency checks for the extension of the SPL privileges to commercial operations, provided that the examiner has completed 300 hours of flight time as a pilot on sailplanes or powered sailplanes, including 90 hours of flight instruction.
Extension to TMG	Skill tests for the extension of the SPL or LAPL(S) privileges to TMG, provided that the examiner has completed 300 hours of flight time as a pilot on sailplanes or powered sailplanes, including 50 hours of flight instruction on TMG.
FE(B)	
Part-FCL reference:	FCL.1005.FE(c)
BPL, LAPL(B) and addition of class or group	Skill tests for the issue of the BPL and the LAPL(B) and skill tests and proficiency checks for the extension of the privileges to another balloon class or group, provided that the examiner has completed 250 hours of flight time as a pilot on balloons, including 50 hours of flight instruction.
Extension to commercial operations	Proficiency checks for the extension of the BPL privileges to commercial operations, provided that the examiner has completed 300 hours of flight time as a pilot on balloons, of which 50 hours in the same group of balloons for which the extension is sought. The 300 hours of flight time shall include 50 hours of flight instruction.

Summary of privileges for Type Rating Examiners (TREs)

TRE(A) & TRE(PL)	
Part-FCL reference:	FCL.1005.TRE(a)
Initial type ratings	Skill tests for the initial issue of type ratings for aeroplanes or powered-lift aircraft, as applicable.
Revalidation and renewal of type and instrument ratings	Proficiency checks for revalidation or renewal of type and IRs.
ATPL(A) issue	Skill tests for the issue of ATPL(A).
MPL issue	Skill tests for the issue of MPL, provided that the examiner has complied with the requirements in FCL.925.
TRI(A) or SFI(A) certificates	Assessments of competence for the issue, revalidation or renewal of a TRI or SFI certificate in the applicable aircraft category, provided that the examiner has completed at least 3 years as a TRE.

TRE(H)	
Part-FCL reference:	FCL.1005.TRE(b)
Type ratings	Skill tests and proficiency checks for the issue, revalidation or renewal of helicopter type ratings.
Instrument ratings and extension from SE(H) to ME(H)	Proficiency checks for the revalidation or renewal of IRs, or for the extension of IR(H) from single-engine to multi-engine helicopters, provided that the TRE(H) holds a valid IR(H).
ATPL(H) issue	Skill tests for the issue of ATPL(H).
TRI(H) and SFI(H)	Assessments of competence for the issue, revalidation or renewal of a TRI(H) or SFI(H) certificate, provided that the examiner has completed at least 3 years as a TRE.

Summary of privileges for Class Rating Examiners (CREs)

CRE	
Part-FCL reference:	FCL.1005.CRE
Class and type ratings	Skill tests for the issue of class and type ratings; revalidation or renewal of class and type ratings.
Revalidation and renewal of instrument ratings	Revalidation and renewal of IRs, provided that the CRE complies with the requirements in FCL.1010.IRE(a).

Summary of privileges for Synthetic Flight Examiners (SFEs)

SFE(A) & SFE(PL)	
Part-FCL reference:	FCL.1005.SFE(a)
Type ratings	Skill tests and proficiency checks for the issue, revalidation or renewal of type ratings for multi-pilot aeroplanes or powered-lift aircraft, as applicable.
Instrument ratings	Proficiency checks for the revalidation or renewal of IRs, provided that the SFE complies with the requirements in FCL.1010.IRE for the applicable aircraft category.
ATPL(A)	Skill tests for the issue of ATPL(A).
MPL	Skill tests for the issue of MPL, provided that the examiner complies with the requirements in FCL.925.
SFI	Assessments of competence for the issue, revalidation or renewal of an SFI certificate in the relevant aircraft category, provided that the examiner has completed at least 3 years as an SFE.
SFE(H)	
Part-FCL reference:	FCL.1005.SFE(b)
Type ratings	Skill tests and proficiency checks for the issue, revalidation and renewal of type ratings; and
Instrument ratings	Proficiency checks for the revalidation and renewal of IRs, provided that the SFE complies with the requirements in FCL.1010.IRE(b).
ATPL(H)	Skill tests for the issue of ATPL(H).
SFI(H)	Skill tests and proficiency checks for the issue, revalidation or renewal of an SFI(H) certificate, provided that the examiner has completed at least 3 years as an SFE.

Summary of privileges for Flight Instructor Examiners (FIEs)

FIE(A)	
Part-FCL reference:	FCL.1005.FIE(a)
FI(A), CRI(A), IRI(A) and TRI(A) for SP(A)	The privileges of an FIE on aeroplanes are to conduct assessments of competence for the issue, revalidation or renewal of certificates for FI(A), CRI(A), IRI(A) and TRI(A) on single-pilot aeroplanes, provided that the relevant instructor certificate is held.
FIE(H)	
Part-FCL reference:	FCL.1005.FIE(b)
FI(A), IRI(H) and TRI(H) for SP(A)	The privileges of an FIE on helicopters are to conduct assessments of competence for the issue, revalidation or renewal of certificates for FI(H), IRI(H) and TRI(H) on single-pilot helicopters, provided that the relevant instructor certificate is held.
FIE(As), (S), (B) AUTHORISATION	
Part-FCL reference:	FCL.1005.FIE(c)
Instructor certificates	The privileges of an FIE on sailplanes, powered sailplanes, balloons and airships are to conduct assessments of competence for the issue, revalidation or renewal of instructor certificates on the applicable aircraft category, provided that the relevant instructor certificate is held.

Summary of privileges for Instrument Rating Examiners (IREs)

IRE	
Part-FCL reference:	FCL.1005.IRE
Instrument ratings	The privileges of the holder of an IRE certificate are to conduct skill tests for the issue, and proficiency checks for the revalidation or renewal of IRs.

4. Considerations for check flights on FSTDs

Prior to any test, an examiner shall ensure that the simulator is qualified and has a valid certificate. Every FSTD operator is obligated to show the customer the complete EASA Flight Simulation Training Device Qualification Certificate including the FSTD Specifications which are essential to make sure that every part of the check program can be undertaken. Before the test/check, the technical log shall be checked.

5. Authority to sign documentation after the skill test/proficiency check

FCL.1030: Conduct of skill tests, proficiency checks and assessments of competence

In the event of a pass in a proficiency check or assessment of competence for revalidation or renewal, the examiner may endorse the applicant's licence or certificate with the new expiry date of the rating or certificate, if specifically authorised for that purpose by the competent authority responsible for the applicant's licence.

Following ratings are concerned:

1. Class Rating
2. Type Rating
3. Instrument Rating
4. Mountain Rating

Examiners shall maintain records for 5 years with details of all skill tests, proficiency checks and assessments of competence performed and their results.

Upon request by the competent authority responsible for the examiner certificate, or the competent authority responsible for the applicant's licence, examiners shall submit all records and reports, and any other information, as required for oversight activities.

For further details refer to FCL.1030 and ZPA ACG/FCL/01-2012.

Module 2 – Practical training of examiners

1. General

It is intended that all applicants for authorisation must have received an authority approved initial training for this purpose before undertaking an acceptance flight with an inspector/senior examiner.

The standards of competence of pilots depend to a great extent on the competence of examiners. Examiners will be briefed by the authority on the air crew regulation requirements, the conduct of skill tests and proficiency checks, and their documentation and reporting. Examiners should also be briefed on the protection requirements for personal data, liability, accident insurance and fees, as applicable in the EU Member State concerned.

Applicants for an examiner certificate shall demonstrate their competence to an inspector from the competent authority or a senior examiner specifically authorised to do so by the competent authority responsible for the examiner's certificate through the conduct of a skill test, proficiency check or assessment of competence in the examiner role for which privileges are sought.

2. Training Content

Specific flight test and check training

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

1. Knowledge and management of the test which the authorisation is sought for. These are described in the relevant modules in this FEM.
2. Knowledge of the administrative procedures pertaining to that test/check
3. For an initial examiner authorisation practical training in the examination of the test profile sought is required.
4. An examiner certification acceptance test flight with an inspector or senior examiner designated by the authority, e.g. for FE (PPL) this is to be the PPL skill test.

3. Skill Test/Prof Check Standards

Standards of performance are central to a consistent conduction of tests and checks by examiners throughout EASA member states:

1. Examiners shall consistently apply Part-FCL 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.
2. 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. The test standards are depicted in Modules 3 and 4 as a reference for the examiner and applicant
3. 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.
4. 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.
5. Examiners are reminded that applicants may appeal against the conduct of any test/check in accordance with regulations.

The examiner shall be the Pilot-in-Command, except in circumstances agreed by the examiner.

Examiner approach

An examiner should create a friendly and relaxed atmosphere both before and during a test or check flight. A negative or hostile approach shall be avoided. During the test or check flight, the examiner should avoid negative comments or criticisms and all feedback should be reserved for the debriefing.

4. Pre-flight briefing

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 ease, but will ensure when airborne that the flight proceeds smoothly and without unnecessary delay.

Construction of the briefing

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

Briefing content

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

1. the objective of the flight
2. licence checks, as necessary
3. freedom for the applicant to ask questions
4. operating procedures to be followed (e.g. operators manual)
5. weather assessment
6. operating capacity of applicant and examiner
7. aims to be identified by the applicant
8. simulated weather assumptions (e.g. icing, cloud base)
9. contents of exercise to be performed
10. agreed speed and handling parameters (e.g. V-speeds, bank angle)
11. use of R/T
12. respective roles of applicant and examiner (e.g. during emergency)
13. 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:

1. involvement of examiner in a multi-pilot operating environment
2. the need to give the 'applicant' precise instructions
3. responsibility for a safe conduction of the flight
4. intervention by the examiner when necessary
5. liaison with ATC and the need for concise, easily understood intentions
6. prompting the 'applicant' regarding required sequence of events (e.g. following a go-around)
7. keeping brief, factual and unobtrusive notes

Applicant's planning and facilities

The examiner shall conduct each test/check in such a manner as to stay in conformity with the guidance given by the authority such that each applicant is allowed adequate time for the test, normally not more than one hour. Adequate planning facilities must be available. 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 shall be completed without assistance from other students or instructors. Current ATC and meteorological information must be obtained.
A flight log shall be prepared and the examiner may request a copy. The log may include such items as:

1. Route (including flight to the planned alternate aerodrome)
2. Communication and navaid 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 it into the log)
3. Planned levels and altitudes
4. Timings, ETAs
5. MSA, safety height or minimum levels/altitudes
6. Fuel (showing contingency fuel and space to plot fuel remaining at way points)
7. 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 the authority. 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.

5. Airmanship

Definition

Airmanship is the consistent use of good judgment and well-developed skills to accomplish flight objectives. This consistency is based on a cornerstone of uncompromising flight discipline and is developed through systematic skill acquisition and proficiency. A high state of situational awareness completes the airmanship picture and is obtained through knowledge of oneself, the aircraft, the whole environment, including other crewmembers, if applicable, and associated risks.

How the examiner assesses airmanship

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

Pass/Fail judgements based solely on airmanship issues must be carefully chosen since they may be entirely subjective.
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 come to the conclusion 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.

The foundations of airmanship

KNOWLEDGE

Knowledge of aircraft

Deep understanding of aircraft sub-systems, emergency procedures, cockpit automation, aircraft flight characteristics and operating limits.

Knowledge of environment

- Understanding of the physical environment and the effects on aircraft control.
- Understanding of the regulatory environment.
- Understanding of the organizational environment and the challenges posed to airmanship.

Knowledge of risk

Understanding the risks to discipline, skill and proficiency, knowledge, situational awareness, judgement, aircraft.

SKILLS

Physical skills

- Flying skills
- Navigation skills
- Instrument flying
- Emergency handling / recovery

Flight deck management skills

- Avoiding the pitfalls of automation (over-reliance, complacency, bias)
- Information management skills

Communication skills

- Vigilance in monitoring communication
- Using appropriate communication (phraseology, clear, concise)
- Active listening - inquiry through communication

Cognitive skills

- Understanding and maintaining situational awareness
- Problem solving / decision-making skills
- Understanding and managing workload
- Self-assessment

Team skills

- Performance monitoring
- Leadership/initiative
- Interpersonal skills
- Co-ordination & decision-making
- Team communication

ATTITUDE

Positive attitude (e.g. openness and honesty), both in thought and action, also foster trust among members of the flight crew. This trust, in return, can increase personal confidence and the ability to accomplish a task efficiently and safely. While trust can be earned, it must also be given. Lack of trust within a team or flight crew can increase risk during operations. Even though trust can aid in team building, team members should never accept a decision, action or proposed action without checking to see if it is correct for the situation. A good rule is to trust but verify. Insist that other team members do the same for your actions and decisions.
Examples for negative attitude as listed below are ones that have been shown to increase accident likelihood.

- Anti-authority
- Impulsiveness
- Invulnerability
- Machismo
- Resignation
- Complacency

Pilots must be able to recognize and correct their negative attitude before considering the attitude of other crewmembers.
Understanding the five main negative and hazardous attitudes, the antidotes and the impact on airmanship is essential.

Hazardous attitudes	
Hazardous attitude	**antidote**
Anti-authority: "Regulations are for someone else."	"Follow the rules. They are that way for a reason."
Impulsivity: "I must act now, there's no time"	"Not so fast. Think first"
Invulnerability: "It won't happen to me"	"It could happen to me"
Macho: "I'll show you. I can do it"	"Taking chances is foolish"
Resignation: "What's the use?"	"Never give up. There is always something I can do"

PROFESSIONALISM

Understanding the values and principles embodied in airmanship.

DISCIPLINE

in terms of

- Flight preparation
- Flight discipline (e.g. vigilance/look-out, maintaining situational awareness, operational and regulatory policy)
- Knowledge and skills maintenance
- Post-flight evaluation
- Self-discipline (managing stress, managing attitudes)

6. Situational Awareness

For a pilot, situational awareness means having a mental picture of the existing inter-relationship of location, flight conditions, configuration and energy state of the aircraft as well as any other factors that could be about to affect its safety such as proximate terrain, obstructions, airspace reservations and weather systems. The potential consequences of inadequate situational awareness include CFIT, loss of control, airspace infringement, loss of separation, or an encounter with wake vortex turbulence, severe air turbulence, heavy icing or unexpectedly strong head winds.

7. Assessment System

7.1 Factors affecting evaluation

Comparing candidates with each other

When working with a group of candidates, there may be a tendency to compare one candidate to the other. It's a natural thing to do. When conducting a flight test however, compare the candidate'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 to give the candidate 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:

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

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

Testing for the purpose of licensing must remain clearly distinguished 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 candidate 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:

Discontinuance:	discontinuance of a maneuver for valid safety reasons, i.e., a go-around or other procedure necessary to modify the originally planned maneuver.
Collision avoidance:	examiner intervention on the flight controls to avoid another aircraft that the candidate could not have seen due to position or other factors.
Misunderstood request:	a legitimate instance when a candidate does not understand an examiner's request to perform a specific maneuver. A candidate's failure to know the requirements of a specified maneuver is not grounds for repeating a task or maneuver.

Other factors: any condition where the examiner was distracted to the point that the candidate's performance of the maneuver (radio calls, traffic, etc.) could not adequately be observed.

VALIDITY

Assessment of ground and air items must remain within the limits of the appropriate flight test standards. The scope of the test must be such that when candidates 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 of each area of skill and knowledge required to ensure the standard is met. Flight tests will be *comprehensive* if the examiner adheres 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.

7.2 The components of Threat and Error Management (TEM) Model

There are three basic components in the TEM framework:

Threats - generally defined as events or errors that occur beyond the influence of acting persons, increase operational complexity, must be managed to maintain the margins of safety.

Errors - generally defined as actions or inactions by somebody that lead to deviations from organizational or operational intentions or expectations. Unmanaged and/or mismanaged errors frequently lead to undesired states. Errors in the operational context thus tend to reduce the margins of safety and increase the probability of an undesirable event.

Undesired states - generally defined as operational conditions where an unintended situation results in a reduction in margins of safety. Undesired states that result from ineffective threat and/or error management may lead to compromised situations and reduce margins of safety aviation operations. Often considered the last stage before an incident or accident.

TEM proposes that threats (such as adverse weather), errors (such as a pilot selecting a wrong automation mode), and undesired aircraft states (such as an altitude deviation) are everyday events that flight crews must manage to maintain safety. Therefore, flight crews successfully managing these events regardless of occurrence are assumed to increase their potential for maintaining adequate safety margins.

THREAT DEFINITION

Threats are defined as events or errors that:

- occur outside the influence of the flight crew (i.e. not caused by the crew);
- increase the operational complexity of a flight; and
- require crew attention and management for safety margins being maintained.

Using this definition, a threat can be high terrain, adverse weather conditions, an aircraft malfunction (e.g., inoperative thrust reverser), or other people's errors, such as an inaccurate recording of a fuel load by a dispatcher. All these events occur outside of the influence of the flight crew, yet they add to the crew's workload and need to be managed. Sometimes they can be managed independently and sometimes they interact with one another further complicating the necessary management.

Threat management can be broadly defined as how crews anticipate and/or respond to threats. A mismanaged threat is defined as a threat that is linked to or induces flight crew error. Some of the common tools and techniques used in commercial aviation to manage threats and prevent crew errors include reading weather advisories, turning weather radar on early, thorough walk-arounds during pre-departure, correct use of procedures to diagnose unexpected aircraft malfunctions, briefing an alternate runway in case of a late runway change, briefing crew members as to acceptable times and reasons for interruptions, and loading extra fuel when the destination airport is in question due to poor weather or restricted access.

ERROR DEFINITION

Errors are defined as flight crew actions or inactions that:

- lead to a deviation from crew or organizational intentions or expectations;
- reduce safety margins; and
- increase the probability of adverse operational events on the ground or during flight.

Flight crew errors can be divided into three types: aircraft handling, procedural and communication errors. Aircraft handling errors are those deviations associated with the direction, speed and configuration of the aircraft. They can involve automation errors, such as dialing an incorrect altitude, or hand-flying errors, such as getting too fast and high during an approach. Procedural errors are flight crew deviations from regulations, flight manual requirements or aircraft operating procedures. Communication errors involve a miscommunication between the pilots, or between the crew and external agents such as ATC controllers, flight attendants, and ground personnel.

Error management is now recognized as an inevitable part of learning, adaptation, and skill maintenance. Hence, a primary driving force behind TEM is to understand what types of errors are made under what circumstances (i.e., the presence or absence of which threats) and how crews respond in such situations. For example: do crews detect and recover the error quickly, do they acknowledge the error but do nothing, perhaps because they believe it is inconsequential or will be trapped later, or do they only "see" the error when it escalates to a more serious undesired aircraft state?

This is the heart of error management: detecting and correcting errors.

An error that is not detected cannot be managed.
An error that is detected and effectively managed has no adverse impact on the flight.

On the other hand, a mismanaged error reduces safety margins by linking to or inducing additional error or an undesired aircraft state.

UNDESIRED AIRCRAFT STATE (UAS)

An undesired aircraft state (UAS) is defined as a position, speed, attitude, or configuration of an aircraft that:

- results from flight crew error, actions, or inaction; and
- clearly reduces safety margins

In other words, a UAS is a safety compromising state that results from ineffective error management. Examples include unstable approaches, lateral deviations from track, hard landings, and proceeding towards the wrong taxiway/runway.

As with errors, UASs can be managed effectively, returning the aircraft to a safe flight condition, or mismanaged, leading to an additional error, undesired aircraft state, or worse, an incident or accident.

TEM Tools & Techniques

Some tools - the "hard" safeguards - are associated with aircraft design, and include automated systems, instrument displays, and aircraft warnings. The Traffic Collision Avoidance System (TCAS), which provides flight crews with visual and audio warnings of nearby airplanes to prevent midair collisions, is a good example of a "hard" TEM safeguard. However even with the best designed equipment, these "hard" safeguards are not enough to ensure effective TEM performance.

Other tools - the "soft" safeguards - are very common in aviation (and other high-risk industries). They include regulations, standard operating procedures, and checklists to direct pilots and maintain equipment and licensing standards, checks and training to maintain proficiency.

With the hard and soft safeguards in place, the last line of defense against threat, error and undesired aircraft states is still and ultimately the flight crew.

Checklists only work if flight crews use them, the autopilot only works when being engaged in the correct mode.

The TEM philosophy stresses three basic concepts: anticipation, recognition and recovery.
The key to anticipation is accepting that while something is likely to go wrong, you can't know exactly what it will be or when it will happen. Hence, a chronic unease reinforces the vigilance that is necessary in all safety-critical professions. Anticipation builds vigilance, and vigilance is the key to recognizing adverse events and errors.
Recognition leads to recovery. In some cases, particularly when an error escalates to an undesired aircraft state, recovering adequate safety margins is the first line of action: recover first, analyze the causes later.
Examiners should familiarize themselves with the concept of TEM and examine these principles when assessing general airmanship.

7.3 Evaluation Errors

In order to check 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 candidates or a particular group of candidates 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 candidate's performance.

Central Tendency Errors

Central tendency errors are indicated by a tendency to rate all or most candidates as *average*. The examiner really "feels" that the performance of most candidates is not as good as it should be and therefore underscores a candidate's good performance. On the other hand, the examiner is reluctant to cope with the possible emotional response of a candidate 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 candidates 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 a candidate 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 candidate and award undeservedly low marks or high marks.

Logical error 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 candidate 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 candidates to test. Under this condition the examiner may rate each applicant against the others within the group instead of against the published criteria. If the group to be tested is above average, a candidate who is of average ability may be awarded an undeservedly low mark. If the group of candidates to be tested is below average, then a candidate 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.

7.4 Oral questions

The examiner uses oral questions to measure and evaluate the extent of aeronautical knowledge and to determine that the candidate meets the standard of knowledge required for the licence or rating being sought.
This is an important part of the flight test and it is the portion of flight testing that results in the greatest variance in standardization. For this reason it is essential that questions are being prepared beforehand to ensure they are worded correctly and that they are relevant and valid.
It is recommended that the examiner has a bank of questions prepared for all the required items or areas of the oral portion of the test.
It is not intended that all of the questions being prepared are to be asked but additional questions would be available at the very moment if this is required. Moreover, a bank of questions will allow the examiner to vary the oral portion of the test from candidate to candidate to some extent.
The prepared questions should be of a practical operational nature, based upon the aircraft and the trip assigned for the flight test. Theoretical type questions are not recommended on the flight test as this area is covered by the written examinations.
In preparing questions, it is recommended that you first write down the correct answer and then write a question that will elicit only that answer.
Questions should be carefully worded and not ambiguous. Good questions are easily understood and composed of common words. They should measure knowledge, not the use of language. Big words and high sounding phraseology may allow the examiner to display command of language and vocabulary but only detract attention from the test. If candidates cannot understand the meaning of the words, they will not be able to answer the question. Therefore examiners must keep the vocabulary within the grasp of candidates.
To make sure the candidate understands the question, familiar terms and words should be used. The situation and conditions must be clear to give the candidate the chance to answer correctly.
A question shall focus on one idea only. The examiner can guide the candidate through a complex procedure by asking "what", "why", "where", "when" and "how" questions after the basic question has been asked.
Example of a basic question: "What is meant by the term VFR in aviation?"
Answer, "Visual Flight Rules."
Next question might be, "Is the weather VFR for today's flight?"

Note:

This requires a yes/no answer, but you could follow up with "How do you know?" etc.
Keep questions as practical as possible. A flight test is an operational exercise where the candidate demonstrates knowledge and skill by going through an actual flight.
Questions should get the candidate thinking. Asking a question that requires a YES/NO answer doesn't really tell the examiner much about the candidate's level of understanding.
It is more effective to guide the candidate's thoughts toward the area to be questioned and then ask the question. In this way the candidate can visualize the situation and then think about the answer to the specific question. Knowing that something happens is not as important as understanding why it happens.
Tricky or irrelevant questions should be avoided. Questions should be challenging for the candidate but all necessary information to come to the answer must be provided.

Handling of candidate answers

The examiner's role is different from the instructor's one. Examiners strictly have to observe and evaluate. Instructors are involved in the training experience with the student. They explain, demonstrate, allow students to practice, supervise practice and, finally, evaluate to confirm learning. Examiners should avoid confirming an answer. Moreover, responding, "No, that's not right" to an answer may undermine a candidate's self-confidence and affect performance for the remainder of the flight test. Examiners should avoid leading candidates to the correct answer. However, an examiner may ask for clarification. For example: The answer "The nose would pitch down!" to the question "What would happen if the aircraft was loaded with an aft-center of gravity?" could be followed by a demand to explain what is meant by demonstrating the answer with a model aircraft.

7.5 Definition of strong and weak elements of performance

Error

An action or inaction by the flight crew that leads to a deviation from organizational or flight intentions or expectations.

Minor Error

An action or inaction that is inconsequential to the completion of a task, procedure or maneuver, even if certain elements of the performance vary from the recommended best practices.

Major Error

An action or inaction that can lead to an undesired aircraft state or a reduced safety margin if improperly managed; also an error that does not lead to a safety risk but detracts measurably from the successful achievement of the defined aim of a sequence/item.

Critical Error

An action or inaction that is mismanaged and consequently leads to an undesired aircraft state or compromises safety such as:

- Non-compliance to mandated standard operating procedures; or
- Repeated improper error management or uncorrected and unrecognized threats, with the risk to put the aircraft in an undesired state; or
- Repeated major errors

Deviation

A variance in precision with respect to a specified limit published for a maneuver within a test item or sequence, which is a result of pilot error or faulty handling of the aircraft.

Minor Deviation

A deviation that does not exceed a specified limit.

Major Deviation

A deviation that exceeds a specified limit or repeated minor deviations without achieving stability.

Critical Deviation

A major deviation that is repeated, excessive or not corrected, such as:

1. Repeated non-adherence to specified limits; or
2. Not identifying and correcting major deviations; or
3. More than doubling the specified value of a limit.

Consider the following descriptions concerning a candidate's performance of the particular test sequence/item demonstrated:

Performance is well executed considering existing conditions:

1. Aircraft handling is smooth and positive with a high level of precision.
2. Technical skills indicate a thorough knowledge of procedures, aircraft systems, limitations and performance characteristics.
3. Situational awareness is indicated by continuous anticipation and vigilance.
4. Flight management skills are exemplary and threats are consistently anticipated, recognized and well managed.
5. Safety margins are maintained through consistent and effective management of aircraft systems and mandated operational protocols.

Performance is observed to include minor errors:

1. Aircraft handling with appropriate control input but includes minor deviations.
2. Technical skills indicate an adequate knowledge of procedures, aircraft systems, limitations and performance characteristics to successfully complete the task.
3. Situational awareness is adequately maintained as candidate responds in a timely manner to cues and changes in the flight environment to maintain safety while achieving the aim of the sequence/item.
4. Flight management skills are effective. Threats are anticipated and errors are recognized and recovered. Safety margins are maintained through effective use of aircraft systems and mandated operational protocols.

Performance is observed to include major errors:

1. Aircraft handling is performed with major deviations and/or an occasional lack of stability, over/under control or abrupt control input.
2. Technical skills reveal deficiencies either in depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that do not prevent the successful completion of the task.
3. Situational awareness appears compromised as cues are missed or attended to late or the candidate takes more time than ideal to incorporate cues or changes into the operational plan.
4. Flight management skills are not consistent. Instrument displays, aircraft warnings or automation serve to avert an undesired aircraft state by prompting or remedying threats and errors that are noticed late. Safety margins are not compromised, but poorly managed.

Performance is observed to include critical errors or the aim of the test sequence/item is not achieved:

1. Aircraft handling is performed with critical deviations and/or a lack of stability, rough use of controls or control of the aircraft is lost or in doubt.
2. Technical skills reveal unacceptable levels of depth of knowledge or comprehension of procedures, aircraft systems, limitations and performance characteristics that prevent a successful completion of the task.
3. Lapses in situational awareness occur due to a lack of appropriate scanning to maintain an accurate mental model of the situation or there is an inability to integrate the information available to develop and maintain an accurate mental model.
4. Flight management skills are ineffective, indecisive or noncompliant with mandated published procedures and corrective countermeasures are not effective or applied.
5. Safety margins are compromised or clearly reduced.

7.6 Pass/Fail criteria

The examiner has to check Part-FCL references for pass/fail criteria relevant to the test to be conducted. In general the guidance is:

For Single-Pilot Aeroplanes

In the case of single-pilot aeroplanes, with the exception of 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 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 Multi-Pilot and Single-Pilot high-performance complex aeroplanes

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 5 items will require the applicant to take the entire test or check again. Any applicant failing 5 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.

The Result

There are several methods for evaluating an applicant's performance. National authorities may select the method which they wish to use. Two methods will be considered here:

A Grading
B Objective Assessment

A 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 shall 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
AS	**Above Standard**: excellent performance considering existing conditions - well executed without any failure (errors or deviations) - competency to get the job done safely and efficiently - demonstration of the will to achieve top performance
S	**Standard**: standard as normally expected - efficient, adequate and appropriate performance with minor failures only - minor failures sporadic, without tendency to a specific weakness - sporadic variation of recommended best practices that leads to an inconsequent application of mandatory operational procedures without compromising safety
MS	**Marginal Standard**: performance inconsistent but still acceptable - repeated minor failures without achieving stabilization, - minor failures tend to a specific weakness (i.e. slow scanning), - major failures but limited amount (one or maximum 2 major failures in one component only) In summary demonstrating a failure or failures that might lead to an undesired aircraft status (UAS)
U	**Unsatisfactory**: not efficient, not adequate, no appropriate performance and therefore not acceptable - knowledge not sufficient - one or more failures lead to an undesired aircraft state (UAS) - critical deviation, meaning more than doubling the value of a specific limit - repeated major failure without achieving stabilization - exceedance of a zero tolerance published boundary - inability to retrieve memory items/by heart items published by the aircraft manufacturer - inability to identify and/or correct a major failure - inability to build up and to maintain a realistic mental model of the situation, aircraft control in doubt or lost resulting in the requirement of an intervention - inability to achieve standard performance of a repeated item - the candidate chooses to terminate the session for a reason considered not being adequate by the examiner

Written remarks are required when grading a flight test exercise with MS or U. The remarks shall be clear and concise.
During a flight test it might be 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.

B OBJECTIVE ASSESSMENT

Satisfactory performance

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

1. Performing the assignments specified in the examiner's manual for the licence or rating sought within the approved standards
2. Demonstrating control of the aeroplane/helicopter and flight with the successful outcome of each assignment performed never seriously in doubt
3. 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, 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, shall be disqualifying. If a repeated item is not clearly satisfactory, the examiner shall consider it unsatisfactory

Examiner standardization

The check shall be rated with a **'pass'**, provided that the applicant demonstrates the required level of knowledge, skill or proficiency and, where applicable, remains within the flight test tolerances for the licence or rating.

The check shall be rated with a **'fail'** provided that any of the following applies:

a) the flight test tolerances have been exceeded after the examiner has made due allowance for turbulence or ATC instructions;
b) the aim of the test or check is not completed;
c) the aim of exercise is completed but at the expense of a safe flight, violation of a rule or regulation, poor airmanship or rough handling;
d) an acceptable level of knowledge is not demonstrated;
e) an acceptable level of flight management is not demonstrated;
f) the intervention of the examiner or safety pilot is required in the interest of safety.

The check shall be rated with a **'partial pass'** in accordance with the criteria shown in the relevant skill test appendix of Part-FCL.

7.7 Post flight - debriefing

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

1. take the time necessary to consider a fair, unbiased and correct assessment of the test/check
2. make 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.
3. where an existing rating has been failed instruct the applicant about the implications of his result
4. explain to the applicant administrative steps required following the result

Having completed the flight and the administration the examiner may then offer clarification of any aspect of the flight.

The following points may be discussed:

1. advise the applicant how to avoid or correct mistakes
2. mention any other points of criticism noted
3. give any advice considered helpful

Complaints and Appeals

If at any time during or after the test a complaint of serious nature is made by an applicant concerning the conduct of his test/check, the examiner should not become involved into a discussion with the applicant. Complaints or appeals shall be dealt with according to authority regulations.

Module 3 – Test Standards Aeroplane

The tables in this module provide a practical guide to the criteria to be considered by the examiner when assessing each item of Part-FCL aeroplane tests and checks. To keep it rather simple, the table is generic and not specific to a certain licence or rating.

Introductory notes

Using a reference system of 5 phases of flight the module 3 table describes the required performance criteria:

1. pre-flight operations and ground manoeuvers
2. take-off, departure route and route sector
3. general airwork
4. holding, approach, landing and G/A procedures
5. abnormal and emergency procedures

1. Pre-flight operations and ground manoeuvers

a) TECHNICAL KNOWLEDGE

Aim

Determine the candidate's ability to demonstrate a practical knowledge of selected systems, components, normal, abnormal and emergency procedures and operate aircraft systems in accordance with the POH/AFM.

Description

The examiner will conduct an equipment examination requiring the candidate to demonstrate a practical knowledge of the airframe, engine, major components and systems including the normal, abnormal, alternate and emergency operating procedures and limitations relating thereto.

Performance Criteria

Assessment of the candidate's ability to explain the operation of the following systems (as far as applicable):

- landing gear;
- power-plant;
- propellers;
- fuel system;
- oil system;
- hydraulic system;
- electrical system;
- environmental systems;
- avionics and communications (autopilot; flight director; Electronic Flight Indicating Systems (EFIS); Flight Management System(s) (FMS); Doppler Radar; Inertial Navigation Systems (INS); Global Positioning System (GPS/DGPS/WGPS); VOR, NDB, ILS/MLS, RNAV systems and components; indicating devices; transponder; and emergency locator transmitter);
- ice protection;
- crewmember and passenger equipment (oxygen system, emergency exits, evacuation procedures and crew duties, and quick donning oxygen mask for crewmembers and passengers);
- flight controls (ailerons, elevator(s), rudder(s), winglets, canards, control tabs, balance tabs, stabilizer, flaps, spoilers, leading edge flaps/slats and trim systems);

- pitot-static system with associated instruments and the power source for the flight instruments; and
- systems and components listed above with regard to the POH or AFM, the Minimum Equipment List (MEL), if appropriate, and the Operations Specifications, if applicable.

b) FLIGHT PLANNING

Aim

Determine the candidate's ability to plan a flight utilizing performance charts, weight and balance calculations, conforming to the VFR or IFR flight rules as applicable and retrieving and interpreting aviation weather information necessary for the safe conduct of the flight.

Description

To determine that the candidate demonstrates knowledge related but not limited to:

- pilot licence privileges and limitations; medical certificate and possible limitations.
- operational information, including NOTAMs and AIP;
- all performance factors for the class/type of aircraft (including mass and balance);
- ensuring that all the required aircraft documentation is valid and available as applicable;
- airworthiness and registration certificates, airworthiness directives;
- Aircraft Flight Manual or other appropriate document (limitations, by heart items)
- relevant and available weather briefing materials;
- classes of airspace.
- preparation of operational flight plan as assigned by the examiner from the departure airport to a destination airport (including navigation logs and charts);
- obtainment and interpretation of weather briefing and factoring conditions into the flight plan;
- preparation of VFR/IFR navigation log (taking account of any NOTAMs);
- establishment of weight and balance for a specific load condition;
- calculation of all relevant performance data required for departure, en-route, and destination;
- fuel calculation.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate practical knowledge of performance and limitations, including the adverse effects of exceeding any limitation;
- demonstrate proficient use of performance charts, tables, graphs, or other data relating to items, such as:

  a. accelerate-stop distance
  b. accelerate-go distance
  c. take-off performance - all engine(s) operating
  d. 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
  e. service ceiling-all engines, engines(s) inoperative, including drift down, if appropriate
  f. cruise performance
  g. fuel consumption, range, and endurance
  h. descent performance
  i. go-around from rejected landings
  j. other performance data

- describe the airspeeds used during specific phases of flight
- describe the effects of meteorological conditions upon performance characteristics and correct appliance of these factors to a specific chart, table, graph, or other performance data

- compute the centre-of-gravity location for a specific load condition (as specified by the examiner), including adding, removing, or shifting weight
- select an appropriate route, altitude and alternate
- obtain and correctly interpret applicable NOTAM information;
- calculate the estimated time en-route and total fuel requirement based on factors such as power settings, operating altitude or flight level, wind and fuel reserve requirements
- determine the required performance for the planned flight being within the aircraft's capability and operating limitations
- retrieve and interpret items such as weather reports and forecasts; pilot and radar reports surface analysis charts; significant weather prognostics; winds and temperatures aloft; freezing level charts, NOTAMS and SIGMETs
- make a competent "GO/NO-GO" decision based on available information for the planned flight;
- complete a flight plan in a manner that reflects the conditions of the proposed flight;
- demonstrate sufficient practical operational knowledge of the regulatory requirements relating to instrument and visual flying, as applicable;
- retrieve and interpret items pertinent to the flight such as weather reports and forecasts; pilot and radar reports; surface analysis charts; significant weather prognostic charts; winds and temperature aloft; freezing level charts, NOTAMS and SIGMETs

c) PRE-FLIGHT

Aim

Determine the candidate's ability to systematically complete internal and external checks in accordance with the POH/AFM and SOPs to ensure that the aeroplane is ready for the intended flight. The candidate will also demonstrate knowledge of how to deal with irregularities, if found.

Description

The candidate will determine that the aeroplane is ready for the intended flight. The pre-flight aeroplane inspection will include a visual inspection of the exterior and interior of the aeroplane, locating each required item and explaining the purpose of the inspection in accordance with the POH/AFM and SOPs. The candidate will carry out a visual check for fuel quantity, proper grade of fuel, fuel contamination and oil levels in accordance with the POH/AFM. If, due to aircraft design, the POH/AFM does not prescribe a visual check of fuel levels, the candidate will use fuel logs or other credible procedures to confirm the amount of fuel on board the aircraft. At the request of the examiner, the candidate will conduct an oral passenger safety briefing.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate an adequate knowledge of the pre-flight inspection procedures, while explaining briefly the purpose of inspecting the items, which must be checked, how to detect possible defects and the corrective action to take;
- demonstrate adequate knowledge of the operational status of the aeroplane by locating and explaining the significance and importance of related documents, such as airworthiness and registration certificates, operating limitations, handbooks, and manuals, minimum equipment list (MEL) (if appropriate), mass and balance data and maintenance requirements, tests, and appropriate records applicable to the proposed flight or operation; and maintenance that may be performed by the pilot or other designated crewmember;
- use the approved checklist to inspect the aeroplane externally and internally;

- verify the aeroplane is safe for flight by emphasizing the need to look at and explain the purpose of inspecting items, such as:

  a. power-plant, including controls and indicators
  b. fuel quantity, grade, type, contamination safeguards, and servicing procedures
  c. oil quantity, grade, and type
  d. hydraulic fluid quantity, grade, type, and servicing procedures
  e. oxygen quantity, pressures, servicing procedures, and associated systems and equipment for crew and passengers
  f. fuselage, landing gear, float devices (where applicable), brakes, and steering system
  g. tires for condition, inflation, and correct mounting, where applicable
  h. fire protection/detection systems for proper operation, servicing, pressures, and discharge indications
  i. pneumatic system pressures and servicing
  j. ground environmental systems for proper servicing and operation
  k. auxiliary power unit (APU) for servicing and operation (where applicable)
  l. flight control systems including trim, spoilers, and leading/trailing edge
  m. anti-ice, deice systems, ice warning systems, servicing, and operation
  n. coordinate with ground crew and ensure adequate clearance prior to moving any devices, such as door, hatches and flight control surfaces;
  o. comply with the provisions of the appropriate Operations Specifications, if applicable, as they pertain to the particular aeroplane and operation;
  p. demonstrate proper operation of all applicable aeroplane systems;
  q. note any discrepancies, determine if the aeroplane is airworthy and safe for flight, or takes the proper corrective action with respect to unsatisfactory conditions identified; and
  r. check the general area around the aeroplane for hazards to the safety of the aeroplane and personnel.

d) ENGINE START

Aim

Determine the candidate's ability to complete the correct engine start procedures including the use of an auxiliary power unit (APU) or external power source under various atmospheric conditions, conducting warm-up, run-up and system checks, recognize normal and abnormal situations, and take proper action in the event of a malfunction.

Description

The candidate will demonstrate the proper use of the pre-start, start and pre-taxi check-lists and check the appropriate radio communications, navigation and electronic equipment and selection of the appropriate communications and navigation frequencies prior to flight.

Performance Criteria

Base the assessment on the candidate's ability to:

- ensure ground safety procedures are followed during the before-start, start, and after-start phases;
- ensure the appropriate use of ground crew personnel during the start procedures (where applicable);
- perform all items of the start procedures by systematically following the approved checklist items for the before-start, start, and after-start phases;
- demonstrate sound judgment and operating practices in those instances where specific instructions or checklist items are not published;

- coordinate with ground crew and ensures adequate clearance prior to moving any devices, such as door, hatches, and flight control surfaces;
- demonstrate adequate knowledge of the pre-take-off checks by stating the reason for checking the items outlined on the approved checklist and explaining how to detect possible malfunctions;
- divide attention properly inside and outside cockpit;
- ensure 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;
- explain, as may be requested by the examiner, any normal or abnormal system operating characteristic or limitation; and the corrective action for a specific malfunction;
- determine if the aeroplane is safe for the proposed flight or requires maintenance;
- determine the aeroplane's take-off performance, considering such factors as wind, density altitude, weight, temperature, pressure altitude, and runway condition and length;
- determine airspeeds/V-speeds and properly sets all instrument references, flight director and autopilot controls, and navigation and communications equipment;
- review procedures for emergency and abnormal situations, which may be encountered during take-off, and states the corrective action required of the Pilot-in-Command and other concerned crewmembers;
- perform an avionics and navigation equipment cockpit check; and
- obtain and correctly interpret the take-off and departure clearance as issued by ATC.

e) TAXI-OUT

Aim

Determine the candidate's ability to manoeuvre the aeroplane safely on the ground.

Description

The candidate will taxi the aircraft to and from the runway in use and as otherwise required during the check. While taxiing, the candidate will follow taxiing procedures. In addition, the taxi check will include the use of the taxiing checklist, taxiing in compliance with clearances and instructions issued by the appropriate air traffic control unit or by the examiner.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of safe taxi procedures (as appropriate to the aeroplane including push-back or power-back, as may be applicable);
- demonstrate proficiency by maintaining correct aeroplane control;
- maintain proper spacing on other aircraft, obstructions, and persons;
- accomplish the applicable checklist items and perform recommended procedures;
- maintain desired track and speed;
- perform an instrument check;
- comply with instructions/clearances issued by ATC (or the examiner simulating ATC);
- observe runway hold lines, localizer and glide slope critical areas and other surface control markings and lighting;

2. Take-off, departure and cruise

a) TAKE-OFF

Aim

Determine the candidate's ability to take-off safely using the correct technique and procedure for the actual wind conditions, runway surface and length, and can assess the possibility of further conditions such as wind shear and wake turbulence.

Description

The candidate will demonstrate a normal take-off performed in accordance with the Airplane Flight Manual.
In case of an IR check flight the candidate will demonstrate an instrument take-off in the same manner as the normal take-off with simulated instrument conditions established at or after reaching an altitude of 200 feet above the airport elevation.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of normal and crosswind take-offs and climbs including airspeeds), configurations, and emergency/abnormal procedures (as appropriate to the aeroplane);
- note any surface conditions, obstructions, or other hazards that might hinder a safe take-off;
- verify and correctly apply correction for the existing wind component to the take-off performance;
- complete required checks prior to starting take-off to verify the expected power-plant performance. Performs all required pre-take-off checks as required by the appropriate checklist items;
- align the aeroplane on the runway centreline;
- apply the controls correctly to maintain longitudinal alignment on the centreline of the runway prior to initiating and during the take-off;
- adjust the power-plant controls as recommended by the POH/AFM or other approved guidance for the existing conditions;
- monitor power-plant controls, settings, and instruments during take-off to ensure all predetermined parameters are maintained;
- adjust the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular take-off segment;
- perform the required pitch changes and, as appropriate, perform or call for and verifying the accomplishment of gear and flap retractions, power adjustments, and other required pilot-related activities at the required airspeed/V-speeds within the tolerances established in the POH or AFM;
- use the applicable noise abatement and wake turbulence avoidance procedures;
- accomplish or calls for and verifies the accomplishment of the appropriate checklist items;
- maintain the appropriate climb segment airspeed/V-speeds;
- maintain the desired heading and the desired airspeed/V-speed within given limits or the appropriate V-speed range;

Performance Criteria Engine Failure after Take-Off (Multi-Engine)

Base the assessment on the candidate's ability to:

- recognize the simulated engine failure promptly;
- control the aeroplane;
- set the power controls and reduce drag by using control application, in the proper sequence;
- identify and verify the inoperative engine;
- bank toward the operating engine, as recommended for best performance;
- maintain directional control within given limits.
- establish a positive rate of climb, if the aeroplane is capable;
- accelerate to and maintain one engine inoperative required airspeed/V-speeds and trim the aeroplane, as required;
- locate the necessary controls and switches to carry out and complete the emergency procedures in accordance with the approved emergency procedures checklist (engine failure during take-off):
  a. complete prescribed engine failure vital action checks from memory;
  b. complete the emergency drill, in accordance with the emergency checklist; and
  c. complete engine shutdown checks and other necessary checks in accordance with the appropriate emergency checklist(s).
- monitor the operating engine and take appropriate action to keep the operating engine parameters within limitations.

b) REJECTED TAKE-OFF

Aim

Determine the candidate's ability to recognize an abnormal situation requiring a rejected take-off and to carry out an appropriate procedure in accordance with the AFM/POH and/or SOPs.
Note: If there is no FSTD 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.

Description

When performed in a simulator, the candidate will demonstrate a rejected take-off before reaching lift-off speed or, if conducted in the aircraft, the candidate will verbally explain this manoeuvre during the briefing or perform the procedure at a reasonable speed before reaching V1.
Reasonable in this context means: taking into consideration required accelerate-stop distance versus runway length available, wind conditions, runway surface conditions, heating effect on brakes, tire conditions, possible defects of antiskid systems and any other circumstances or conditions that may affect a safe accomplishment of the procedure.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of the technique and procedure for accomplishing a rejected take-off after power-plant/system(s) failure/warnings, including related safety factors;
- take 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 that could affect take-off performance and could adversely affect safety;
- align the aeroplane on the runway centreline;
- perform all required pre-take-off checks as required by the appropriate checklist items;

- adjust the power-plant controls as recommended for the existing conditions;
- apply the controls correctly to maintain longitudinal alignment on the centreline of the runway;
- abort the take-off if, in a single-engine aeroplane the powerplant failure occurs prior to becoming airborne, or in a multi-engine aeroplane, the powerplant failure occurs at reasonable speed before V1 during the take-off where the abort procedure can be initiated and the aeroplane can be safely stopped on the remaining runway/stopway. If a flight simulator is not used, the power-plant failure will be explained by the candidate prior to the flight;
- reduce the power smoothly and promptly, if appropriate to the aeroplane, when power-plant failure is recognized; and
- use spoilers, prop 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. Accomplishes the appropriate power-plant failure or other procedures and/or checklists as set forth in the POH or AFM or SOP.

c) INITIAL CLIMB / EN-ROUTE CLIMB

Aim

Determine the candidate's ability to comply with initial climb departure procedures and en-route departure procedures as cleared.

Description

The candidate will complete the initial climb procedures, the departure procedures and establish the aircraft on the en-route course as cleared in accordance with the Visual or Instrument Flight Rules, as applicable.
In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria Initial Climb

Base the assessment on the candidate's ability to:

- transition smoothly and accurately from visual meteorological conditions to actual or simulated instrument meteorological conditions, where applicable;
- monitor power-plant controls, settings, and instruments during the initial climb to ensure all predetermined parameters are maintained;
- adjusts the controls to attain the desired pitch attitude at the predetermined airspeed/V-speed to attain the desired performance for the particular take-off and climb segment;
- perform the required pitch changes and, as appropriate, performs or calls for and verifies the accomplishment of, gear and flap retractions, power adjustments, and other required pilot-related activities at the required airspeed/V-speeds within the tolerances established in the POH or AFM and SOPs;
- use the applicable noise abatement and wake turbulence avoidance procedures, as required;
- accomplish or call for and verify the accomplishment of the appropriate checklist items;
- maintain the desired heading and the desired airspeed/V-speed within given limits or the appropriate V-speed range; and
- comply with ATC clearances and instructions issued by ATC (or the examiner simulating ATC).

Performance Criteria En-route Climb

Base the assessment on the candidate's ability to:

- establish communications with ATC, using proper phraseology;
- select, identify and use the appropriate communications and navigation systems associated with the proposed departure phase;
- perform the aircraft checklist items relative to the phase of flight;
- intercept, in a timely manner, all tracks, radials and bearings appropriate to the procedure, route or clearance;
- adhere to departure, noise abatement and transition procedures or ATC instructions;
- comply, in a timely manner, with all instructions and airspace restrictions;
- maintain proper aircraft control and flight within operating configurations and limitations;
- maintain assigned headings within given limits;
- maintain assigned tracks and bearings within given limits;
- maintain altitude within given limits;
- exhibit adequate knowledge of two-way radio communications failure procedures; and
- conduct the departure phase to a point where, in the opinion of the examiner, the transition to the en-route environment is complete.

d) CRUISE

Aim

Determine the candidate's ability to establish the aeroplane in cruising flight at the pre-planned power settings in accordance with the POH/AFM and to determine the candidate's ability to comply with en-route procedures as cleared.

Description

The candidate will establish the aeroplane in cruising flight in accordance with the performance charts in the POH/AFM, placards displayed in the aeroplane or any other means authorized by the manufacturer. In addition, the candidate will maintain the aircraft on the en-route course and comply with en-route procedures, as cleared, in accordance with Visual or Instrument Flight Rules, as applicable. The candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- select and use the appropriate communications frequencies;
- select and identify the navigation aids associated with the proposed en-route phase;
- perform the aircraft checklist items relative to the phase of flight;
- intercept, in a timely manner, all tracks, radials and bearings appropriate to the route or clearance;
- maintain proper aircraft control and flight within operating limitations;
- maintain assigned heading, tracks or bearings within given limits;
- set the power/throttle(s), propeller and mixture controls at the pre-planned power setting, as recommended by the POH/AFM;
- synchronize propellers;
- apply any additional measures recommended by the manufacturer with respect to aircraft configuration or other considerations; and
- confirm cruise performance and demonstrate good decision-making to deal with the consequences of variances from the expected performance (ETA revision, fuel management).

3. General Airwork

a) STEEP TURNS

Aim

Determine the candidate's ability to perform level and coordinated steep turns.

Description

At an operationally safe altitude recommended by the manufacturer, training syllabus, or other training directive, but in no case lower than 4,000 feet AGL, the candidate will execute at least one steep turn in each direction with a bank angle of 45° and a change in heading of at least 180° but not more than 360°. The candidate will specify the selected altitude, airspeed and initial heading before entering the turn.

Performance Criteria

Base the assessment on the candidate's ability to:

- where applicable, divide attention appropriately between outside visual references and instrument indications;
- roll into and out of turns, using smooth and coordinated pitch, bank and power control to maintain the specified altitude within given limits;
- establish the recommended entry airspeed;
- maintain the bank angle of 45º within ±10º while in smooth stabilized flight; and reverse the direction of turn and repeat the manoeuvre in the opposite direction;
- roll out of the turn at the reversal heading and the entry heading within ±10º; and
- avoid any indication of an approaching stall, abnormal flight attitude, or exceeding any structural or operating limitation during any part of the manoeuvre.

b) STALLS

Aim

Determine the candidate's ability to recognize and recover smoothly and correctly from an approach to a stall in various configurations with a minimum loss of altitude.

Description

For the purpose of this manoeuvre, the required approach to a stall speed is the speed at which there is a perceptible buffet or other response/warning to the initial stall entry. When performed in an aeroplane, conduct the approach to stall at an altitude of at least 4000 feet AGL. Perform one of the approaches to stall while in a turn with a bank angle of between 15° and 30°.

Performance Criteria

Base the assessment on the candidate's ability to:

- select an entry altitude that is in accordance with the AFM/POH or SOPs, but in no case lower than an altitude that will allow recovery to be safely completed at a minimum of 3,000 feet AGL. When accomplished in an FSTD, 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;
- observe the area is clear of other aircraft prior to accomplishing an approach to a stall;
- establish the specified configuration;
- while maintaining altitude, slowly establishes the pitch attitude (when approaching the stalling speed avoid using trim), bank angle, and power setting that will induce stall at the desired target airspeed;

- announce the first indication of an impending stall (such as buffeting, stick shaker, decay of control effectiveness, and any other cues related to the specific aeroplane design characteristics) and initiates recovery as briefed before the flight and according AFM/POH;
- avoid entering a full stall;
- promptly recover to a reference airspeed, altitude and heading, allowing only the acceptable altitude or airspeed loss, and heading deviation;
- retract flaps as recommended; and retract the landing gear after a positive rate of climb is established, or as recommended by the manufacturer;
- demonstrate smooth, positive control during entry, approach to a stall, and recovery; and
- return to the altitude, heading and airspeed specified by the examiner.

4. Holding, Approach, Landing and G/A Procedures

a) HOLDING

Aim

Determine the candidate's ability to establish the aircraft in a holding pattern using an actual or simulated ATC clearance.

Description

In actual or simulated instrument conditions, the candidate must demonstrate adequate knowledge of a holding procedure for a standard or non-standard, published or non-published holding pattern. If appropriate, the candidate must demonstrate adequate knowledge of holding endurance, including, but not necessarily limited to, fuel on board, fuel flow while holding, fuel required to alternate, etc. Based on an actual or simulated clearance, the candidate will select a suitable entry procedure, enter the hold and establish the aircraft in the holding pattern. Also, the candidate will demonstrate the proper programming and use of Flight Management Systems if applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- change 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;
- recognize arrival at the clearance limit or holding fix and initiate entry into the holding pattern;
- follow appropriate entry procedures for a standard, nonstandard, published, or non-published holding pattern;
- report entering the hold;
- comply with ATC reporting requirements;
- use the proper timing criteria required by the holding altitude and ATC or examiner's instructions;
- comply with the holding pattern leg length when a DME distance is specified;
- use the proper wind-drift correction techniques to accurately maintain the desired radial, track, courses, or bearing;
- maintain the appropriate holding speed, headings/tracks/course within given limits, as applicable and accurately tracks radials, courses, and bearings; and
- maintain proper aircraft control and flight within operating configurations and limitations while in the hold.

b) DESCENT

Aim

Determine the candidate's ability to comply with visual or instrument arrival procedures, as applicable.

Description

Descent begins when the crew departs the cruise altitude for the purpose of an approach at a particular destination and ends when the crew initiates changes in aircraft configuration and/or speeds to facilitate a landing on a particular runway.
The candidate will complete the arrival procedures, as cleared, in accordance with Instrument Flight Rules or Visual Flight Rules, as applicable. In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of en-route Low and High Altitude Charts, STAR's/FMS Procedures, Instrument Approach Procedure Charts, VFR Charts, as applicable, and related pilot and controller responsibilities;
- select and identify the navigation aids associated with the proposed arrival phase;
- select and correctly identify all instrument references, flight director and autopilot controls, and navigation and communications equipment associated with the arrival;
- perform the aircraft checklist items appropriate to the arrival;
- select and establish communications with ATC, using proper phraseology;
- comply, in a timely manner, with all ATC clearances, instructions, and restrictions;
- demonstrate adequate knowledge of two-way communications failure procedures;
- intercept, in a timely manner, all tracks, radials and bearings appropriate to the procedure, route, ATC clearance, or as directed by the examiner;
- correctly adhere to visual or instrument arrival procedures;
- adhere to airspeed restrictions and adjustments required by regulations, ATC, the POH/AFM, SOP's or the examiner;
- establish, where appropriate, a rate of descent consistent with the aeroplane operating characteristics and safety;
- maintain the appropriate airspeed, heading, altitude and accurately tracks, radials, courses, and bearings as given and prescribed;
- complies with the provisions of the Profile Descent, STAR, and other arrival procedures, as appropriate; and
- maintain proper aircraft control and flight within operating limitations.

c) APPROACH GENERAL

Aim

Determine the ability of the candidate to fly a successful stabilized precision and non-precision instrument approach in accordance with the published instrument approach procedure.
Stabilized as defined in ICAO Doc 8168 means:

i. At Vapp
ii. Correct final approach configuration as briefed/planned
iii. On track and glide-path
iv. Aircraft trimmed for approach speed
v. Correct/sufficient power setting for the final approach
vi. All checklists and the briefing completed

Description

The candidate will demonstrate approaches performed in accordance with procedures and limitations according AFM/POH or SOPs of the training syllabus of the ATO or the operator for the approach facility used. For multi-engine aeroplanes complete at least one approach with a simulated failure of one engine. The simulated engine failure should occur before initiating the final approach segment and must continue to touchdown or throughout the missed approach procedure.
The candidates will demonstrate the proper programming and use of Flight Management Systems as applicable.
The minimum altitudes depicted on the approach chart represent hard approach floor heights above terrain or other obstacles determined during the approach design process. Descent below these altitudes compromises the approach design safety factor.

- **Non Precision Instrument Approach (2D)**

Performance Criteria

Base the assessment on the candidate's ability to:

- select and comply with the PBN, VOR/ LOC/ LOC BC or NDB instrument approach procedure to be performed;
- establish two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment;
- comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- select, tune, identify, confirm and monitor the operational status of ground and aircraft navigation equipment to be used for the approach procedure;
- establish the appropriate aircraft configuration and airspeed/V-speed considering turbulence, wind shear, microburst conditions, or other meteorological and operating conditions;
- complete the aircraft check list items appropriate to the phase of flight or approach segment, including engine out approach and landing checklist, as appropriate;
- prior to final approach course, maintain declared altitudes in given limits without descending below applicable minimum altitudes, and maintain headings as given;
- apply necessary adjustment to the published Minimum Descent Altitude (MDA) and visibility criteria for the aeroplane approach category when required, such as NOTAMS, inoperative aeroplane and ground navigation equipment, inoperative visual aids associated with the landing environment;
- on the intermediate and final segments of the final approach course:
    a. maintain PBN, VOR/ LOC/ LOC BC tracking within ½ scale deflection of the course deviation indicator or within 5 degrees of the desired track in the case of an NDB approach;
    b. fly the approach in a stabilized manner without descending below the applicable minimum altitudes depicted on the approach chart (+as required/–0 feet);
    c. descend to and accurately maintain the Minimum Descent Altitude (MDA) and track to the Missed Approach Point (MAP) or to the recommended minimum visibility that would permit completion of the visual portion of the approach with a normal rate of descent and minimal manoeuvring;
    d. maintain declared approach airspeeds (+10/-5 knots);
    e. initiate the missed approach procedure, if the required visual references for the intended runway are not obtained at the MAP
    f. execute a normal landing from a straight-in or circling approach as required.

- **Precision Instrument Approach (3D)**

Performance Criteria

Base the assessment on the candidate's ability to:

- select and comply with the ILS or LPV instrument approach procedure to be performed;
- establish two-way communications with ATC using the proper communications phraseology and techniques, either personally, or, if appropriate, directs co-pilot/safety pilot to do so, as required for the phase of flight or approach segment;
- comply in a timely manner, with all clearances, instructions, and procedures issued by ATC and advise accordingly if unable to comply;
- select, tune, identify and confirm the operational status of ground and aircraft navigation equipment to be used for the approach procedure;
- establish the appropriate aircraft configuration and airspeed/V-speed considering turbulence, wind shear or other meteorological and operating conditions;
- complete the aircraft check list items appropriate to the phase of flight or approach segment, including engine out approach and landing checklist, as appropriate;
- prior to final approach course, maintain declared or assigned altitudes within given limits without descending below applicable minimum altitudes and maintain headings within given limits;
- apply necessary adjustment to the published Decision Height (DH) and visibility criteria for the aeroplane approach category when required, such as NOTAMS, inoperative aeroplane and ground navigation equipment, inoperative visual aids associated with the landing environment;
- on final approach course, allow no more than ½ scale deflection of the localizer and/or glideslope indications;
- maintain declared approach airspeeds within given limits;
- maintain a stabilized descent to the Decision Height (DH) to permit completion of the visual portion of the approach and landing with minimal manoeuvring; and
- initiate the missed approach procedure, upon reaching the DH, when the required visual references for the intended runway are not obtained.

- **Circling Approach**

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of circling approach categories, speeds, and complies with procedures to a specified runway;
- in simulated or actual instrument conditions to MDA, accomplish the circling approach selected by the examiner;
- demonstrate sound judgment and knowledge of the aeroplane manoeuvring capabilities
- throughout the circling approach;
- adheres to all restrictions and instructions issued by ATC;
- descend at a rate that ensures arrival at the MDA at, or prior to, a point from which a normal circle-to-land manoeuvre can be accomplished;
- avoids descent below the appropriate circling MDA until in a position from which a descent to a normal landing can be made;
- manoeuvre the aeroplane, after reaching the authorized circling approach altitude, by visual references to maintain a flight path that permits a normal landing on a runway at least 90° from the final approach course;
- perform the procedure without excessive manoeuvring and without exceeding the normal operating limits of the aeroplane;

- maintain the desired altitude within -0, +100 feet, heading/track and the airspeed within given limits, but not less than the airspeed as specified in the POH or the AFM;
- use the appropriate aeroplane configuration for normal and abnormal situations and procedures, where applicable;
- turn in the appropriate direction, when a missed approach is dictated during the circling approach, and uses the correct procedure and aeroplane configuration (the missed approach procedure must be briefed in detail before starting the approach!); and
- perform all procedures required for the circling approach and aeroplane control in a smooth, positive, and timely manner.

d) GO-AROUND

Aim

Determine the candidate's ability to carry out a successful missed approach.

Description

Following an instrument approach, the candidate will conduct a missed approach at any time from intercepting final approach to touch down on the runway. Except where ATC amends it, the candidate must follow the published missed approach profile.
In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of missed approach procedures associated with standard instrument approaches;
- initiate the missed approach procedure promptly by the timely application of power, establish the proper climb attitude, and reduces drag in accordance with the approved procedures, assures a positive climb;
- report to beginning the missed approach procedure;
- comply with the published or alternate missed approach procedure;
- follow the recommended aeroplane check list items appropriate to the go-around procedure;
- request a clearance, if appropriate, to the alternate airport, another approach, a holding fix, clearance limit, or as directed by the examiner; and
- maintain recommended airspeeds, heading, track or bearing within given limits; and
- climb to and maintain the published missed approach altitude, or as cleared by ATC or the examiner.

e) BAULKED LANDING 50 FT

Aim

Determine the candidate's ability to carry out a successful rejected landing.

Description

The candidate will conduct a baulked landing after having completed the instrument portion of the approach with the runway in sight, the aircraft configured for landing and in final descent to the runway. Initiate this manoeuvre at approximately 50 feet above the runway and just about over the runway threshold. The examiner may combine the baulked landing with the missed approach.
In addition, the candidate will demonstrate the proper programming and use of Flight Management Systems, as applicable.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of a baulked landing procedure including the conditions that dictate a baulked landing, the importance of a timely decision, the recommended airspeed, and also the applicable "clean-up" procedure;
- make a timely decision to reject the landing for actual or simulated circumstances and make appropriate notification when safety-of-flight is not an issue;
- apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance/positive climb;
- retract 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 within +10/-5 knots;
- trims the aeroplane as necessary, and maintain the proper ground track during the rejected landing procedure; and
- accomplish the appropriate checklist items in a timely manner in accordance with approved procedures.

f) LANDING

Aim

Determine the candidate's ability to carry out a normal or crosswind landing.

Description

The candidate will demonstrate (depending on the check profile):

- one normal landing which, where practical, be conducted without external or internal glideslope information;
- one landing from an instrument approach;
- one crosswind landing, where practicable, under existing meteorological, runway and airport traffic conditions;
- one landing under simulated circling approach conditions except where prevailing conditions prevent a landing, an approach to a point where a landing could have been made.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of normal and crosswind approaches and landings including recommended approach angles, airspeeds, V-speeds, configurations, performance limitations, and ATC or examiner instructions;
- consider factors to be applied to the approach and landing such as displaced thresholds, meteorological conditions, NOTAMs, wake turbulence, wind shear, microburst, gust/wind factors, visibility, runway surface, braking conditions, and other related safety factors (as appropriate to the aeroplane);
- establish the approach and landing configuration appropriate for the runway and meteorological conditions, and performs proper power adjustments;
- perform the aircraft checklist items relative to the phase of flight;
- maintains a ground track that ensures the desired traffic pattern will be flown, taking into account any obstructions and ATC or examiner instructions;
- verify existing wind conditions, makes proper correction for drift, and maintains a precise ground track;

- maintain a stabilized approach and the desired airspeed within +10/-5 knots.
- execute a landing from an approach MDA or DA when the required visual references for the intended runway are obtained;
- accomplish a smooth, positively controlled transition from final approach to touchdown or to a point in the opinion of the examiner that a safe full stop landing could be made;
- maintain positive directional control and crosswind correction during the after-landing roll and strictly maintain the runway centerline;
- use spoilers, prop reverse, thrust reverse, wheel brakes, and other drag/braking devices, as appropriate, in such a manner to bring the aeroplane to a safe stop;
- leave the runway on taxiway/intersection as mentioned during the approach briefing or as instructed by ATC or the examiner; and
- complete the applicable after-landing checklist items in a timely manner and as recommended by the manufacturer.

g) TAXI IN – BLOCK ON

Aim

Determine the candidate's ability to conduct after landing taxi in, arrival/engine shutdown, post-flight and flight close procedures as appropriate.

Description

The candidate will demonstrate the ability to manoeuvre the aircraft under its own power to an arrival area for parking, shut down the engine(s) and ancillary systems and conduct required post flight procedures such as securing the aircraft.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate proficiency by maintaining correct and positive control;
- consider the safety of nearby persons or property by maintaining proper look-out, spacing between aircraft and obstructions;
- accomplish the applicable checklist items and performs the recommended procedures;
- maintain an appropriate taxi speed;
- comply with instructions issued by ATC (or the examiner simulating ATC);
- observe runway hold lines, localizer and glide slope critical areas, and other surface control markings and lighting to prevent a runway incursion;
- maintain constant vigilance and aeroplane control during the taxi operation; and
- record forms/logs and flight time/discrepancies.
- Perform PNF (pilot non flying) or PM (pilot monitoring) duties (if applicable)

h) PNF/PM DUTIES

Aim

Determine the candidate's ability to demonstrate proper division of PNF duties in accordance with the aircraft procedures and SOP's.

Description

Each pilot will demonstrate PNF/PM duties sufficient to determine compliance with and knowledge of aircraft procedures and company SOPs. This will include normal and abnormal procedures while operating as PNF/PM.

Performance Criteria

Base the assessment on the candidate's ability to:

- adhere to PNF/PM duties as outlined in the aircraft procedures and company SOP's;
- complete necessary duties assigned by the pilot flying;
- maintain crew discipline during normal and abnormal procedures;
- demonstrate familiarity with the procedures contained in the QRH or paper checklist;
- demonstrate FMS inputs, as applicable;
- effectively share cockpit workload; and
- maintain crew awareness or attention to flight mode annunciations.

5. Abnormal and Emergency Procedures (as applicable)

a) ABNORMAL/EMERGENCIES

Aim

Determine the candidate's ability to complete recommended checks and procedures in accordance with the POH, AFM, or other applicable publications in event of system malfunctions or other emergencies.

Description

System malfunctions will consist of a selection adequate to determine that the pilot has satisfactory knowledge and ability to safely handle malfunctions. The candidate will be required to demonstrate the use of as many simulated abnormal and emergency procedures as is necessary to confirm that the pilot has an adequate knowledge and ability to perform these procedures.

Performance Criteria

Base the assessment on the candidate's ability to:

- demonstrate adequate knowledge of the emergency procedures appropriate to the approved AFM (as may be determined and briefed before the flight by the examiner) relating to the particular aeroplane type;
- identify the malfunctions;
- review causal factors, identify possible alternate course of action;
- apply correct checks and procedures in accordance with the POH/AFM, or other approved publication;
- consider and apply any restrictions or limitations to the operation of a system(s) and procedures in order to continue the flight;
- demonstrate knowledge and ability in the use of the electronic checklist and alerting system, as applicable; and
- develop a reasonable course of action for the remainder of the flight including a risk assessment (e.g.: FORDEC – Facts-Options-Risks-Decision-Execution-Check)

b) ENGINE FAILURE

Aim

Determine the candidate's ability to maintain control of the aircraft and carry out the appropriate engine failure procedures in accordance with the POH/AFM and/or SOPs.

Description

The pilot will demonstrate the ability to maintain control and safely handle malfunctions on simulated engine failures any time during the check.

Performance Criteria

Base the assessment on the candidate's ability to:

- recognize an engine failure or the need to shut down an engine as simulated by the examiner;
- complete engine failure vital action checks from memory;
- establish a bank of approximately 5°, if required, or as recommended by the manufacturer, to maintain coordinated flight, and properly trim for that condition;
- set engine controls, reduce drag as necessary, correctly identify and verify the inoperative engine after the failure (or simulated failure);
- maintain the operating engine within acceptable operating limits;
- establish the best engine inoperative airspeed as appropriate to the aircraft and condition of flight;
- establish and maintain the recommended flight attitude and configuration for the best performance for all manoeuvring necessary for the phase of flight;
- follow the prescribed aeroplane checklist, and verify the procedures for securing the inoperative engine;
- determine the cause for the engine failure and if a restart is a viable option;
- maintain desired altitude within given limits, when a constant altitude is specified and is within the capability of the aeroplane;
- maintain the desired airspeed and heading within given limits;
- demonstrate proper engine restart or shutdown procedures (whatever appropriate) in accordance approved procedure/checklist or the manufacturer's recommended procedures and pertinent checklist items; and monitor all functions of the operating engine and make necessary adjustments.

Module 4 – Test Standards Helicopter

The tables in this module give 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 candidate's skill and knowledge.

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.

1. 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 candidate's knowledge of procedures to follow as a consequence of that discovery and its impact on the proposed flight.

The candidate may use the Flight Manual to determine information as memory items. For some of the memory items, depending on the aircraft type and where placards are accessible in flight, the candidate 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 candidate 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 a candidate, the examiner should determine the level of knowledge by thorough questioning in this area.

The candidate 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 candidate 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 candidate is expected to conduct an oral passenger safety briefing at this time. Should the candidate omit the briefing, the examiner will ask the candidate 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, candidates 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 candidate to describe the basic 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 candidate than a private one and mark the performance according to the type of flight test performed.

The candidate should use the checklist provided with the helicopter. If the examiner does not agree with the content of the checklist, the candidate should not be penalized. The checks carried out by a candidate should cover at least the items mentioned in the Helicopter Flight Manual.

The candidate 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 candidate neglect this check, the examiner will ask the candidate to perform it and a major error will be noted.

2. Conduct of Test/Check

Ancillary Controls and Aircraft Systems

The candidate 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 candidate's practical knowledge of that control or system.

Take-off 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 candidate is expected to demonstrate accuracy maintaining position and heading while respecting all operating limitations during the take-offs and landings to and from the hover. The examiner should request into and out of wind demonstrations by using scenarios, whenever possible. During the take-off, verify that the candidate 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 candidate 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.

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 candidate'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 candidate should be asked to hover and hover taxi crosswind and downwind, when conditions permit.

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 the examiner is 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.

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 candidate is expected to compromise in order to maximize the possibility of a successful landing in the event of an actual emergency.

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 candidates 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 candidate during the flight test. For example, if a candidate 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 Flight Manual (FM)/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 candidate recover to a hover or overshoot to a climb.

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 candidate is assessed on the departure and entry procedures as well as a complete circuit after a take-off leading to a landing.

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

Whenever possible, use both controlled and uncontrolled aerodromes during the test. The candidate 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 candidate's knowledge of uncontrolled aerodromes and helicopter procedure at those aerodromes should be assessed when the test is entirely conducted at controlled aerodromes.

Sideways and Rearward Flight

This item is tested in conjunction with the Exercise "Hover".

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 is being conducted at 500 feet AGL, in any case not lower than 300 feet AGL, by considering the H/V Diagram depending on type. 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. The examiner must ensure that the candidate fully understands the scenario that may involve avoidance of towers or weather phenomena in order to avoid confusion when assessing the item.

The candidate 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 ±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 (±20°). The candidate 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 ±10 knots (or MPH) of the speed range may be acceptable as a major error if corrected in a timely manner by the candidate. 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 ±200 feet of the entry altitude.
A good time to test this item is after Item Alternate Destinations.

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 candidate'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 candidate 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 candidate the boundary of the selected touchdown zone. Those boundaries will be approximate in some cases, but they must be well outlined for the candidate 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 a candidate 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 candidate will be required to carry out two autorotations, one of which will include a 180-degree turn, towards a 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 candidate that resulted in a simulated landing outside of the pre-selected touchdown zone, even if the candidate 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 a candidate 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 candidate could adapt to variables conditions and make the required corrections necessary for the outcome to always be acceptable or survivable.

Pilot Navigation

Unless the candidate 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 candidate 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 candidate should, after obtaining weather information, complete all final preparation, including weight and balance computations, within 45 minutes.

The candidate 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 candidate 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 candidate 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 candidate is expected to let the examiner know of intentional altitude and/or heading changes. The candidate 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. The candidate is required to use ground-based radio and navigation aids or GPS as nominated by the examiner.

Minimum Safe Altitude Operations

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

The candidate 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 candidate'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.

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.

Advanced Take-offs and Landings

The examiner may assess this item during the confined areas item, except for the ground effect take-off, and the no-hover landing, which should be tested during the circuit work.

You should not request a specific take-off or landing but rather use a scenario that allows the candidate to determine the most appropriate procedure to use. You must ensure that the conditions described in the scenario are clear to the candidate. For example, you should describe surface conditions that will lead the candidate to choose a no-hover take-off, if that is what you want the candidate to demonstrate.

Confined Areas

It is highly recommended to use a scenario for testing this item particularly with candidates 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 candidate to choose the confined area. In some cases, the candidate will choose an area that is very large but is a logical choice. The examiner will then inform the candidate 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 candidate and not one that is either very small or very large. The objective is to determine the candidate's ability to carry out safe and efficient confined area operations; it is not to assess how small an area a candidate 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 candidate 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 candidate to be a different one. Examiners have to be very clear to ensure that their candidates are looking at the same site that they are describing. To avoid confusion, you could ask the candidate 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 take-offs and landings.

The candidate 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 candidate know early enough in the departure of a situation requiring the candidate to reject the departure to enable a safe return to a hover or a landing.

Module 5 – LAPL and Private Pilot Licence (Aeroplane and Helicopter) – LAPL/PPL (A/H)

The following comments and information are offered to assist the examiner to conduct a thorough flight test. These suggestions will support in making accurate assessments of the applicant's skills and knowledge.
All items of the skill test shall be performed utilising the flight test standards of module 3 or 4 respectively and flight test tolerances depicted on the skill test form.

1. Foreword

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

Some items must be assessed through a dedicated exercise, for instance, item 2.g. requires airwork. Other items are assessed without setting a particular drill:

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

2. Aeroplane

Quick Reference:

Part-FCL reference	FCL.125 // FCL.235 // FCL.1015
Who can test:	Flight Examiner (FE), provided that they are individually authorised for this role. When an attempt is taken as two flights both parts are to be conducted by the same examiner.

2.1 General

The route to be flown for the skill test shall be chosen by the FE.

The applicant shall be responsible for the flight planning and shall ensure that all equipment and documentation for the execution of the flight are on board. The navigation section of the test shall have a duration of at least 30 minutes which allows the pilot to demonstrate his ability to complete a route with at least two identified waypoints and may be flown as agreed between applicant and FE.

An applicant shall indicate to the FE the checks and duties carried out, including the identification of radio facilities. Checks shall be completed in accordance with the flight manual or the authorised checklist for the aeroplane or TMG on which the test is being taken. During pre-flight preparation for the test the applicant shall be required to determine power settings and speeds. Performance data for take-off, approach and landing shall be calculated by the applicant in compliance with the operations manual or flight manual for the aeroplane or TMG used.

2.2 Check of theoretical knowledge

Ensure that questions asked are in relation to the type of aircraft being used for the flight test.

3. Helicopter

Quick reference:

	LAPL/PPL (H) SKILL TEST
EASA 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). 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:	National 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 cannot 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:	**Training** • 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. • 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.
Validity:	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.

Module 6 – Commercial Pilot Licence – CPL (A/H)

The following comments and information are offered to assist the examiner to conduct a thorough flight test. These suggestions will support in making accurate assessments of the applicant's skills and knowledge.

All items of the skill test shall be performed utilising the flight test standards of module 3 or 4 respectively and flight test tolerances depicted on the skill test form.

1. Aeroplane

Part-FCL reference	Appendix 4 to Part-FCL
Who can test:	FE, provided he is are individually qualified for this role. When an attempt is taken as two flights both parts are to be conducted by the same examiner.

General

The skill test and proficiency check will be performed according Appendix 4 to Part-FCL.

In situations where 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 flight.

Applicants will be assessed on all aspects of the aeroplane operation. Sound basic and 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 asking questions.

The CPL skill test form is divided into six sections:

Section 1 Pre-flight operations and departure
Section 2 General airwork
Section 3 En-route procedures
Section 4 Approach and landing procedures
Section 5 Abnormal and emergency procedures
Section 6 Simulated asymmetric flight and relevant class/type items

All relevant sections of the skill test shall be completed within 6 months. Failure to achieve a pass in all relevant sections of the test in two attempts will require further training. The sequence of sections may vary depending on circumstances and the examiner's briefing will include the expected profile.

GM1 FCL.1015 requires the duration of the flight to be at least 90 minutes.

The route to be flown shall be chosen by the FE and the destination shall be a controlled aerodrome. The applicant shall be responsible for the flight planning and shall ensure that all equipment and documentation for the execution of the flight are on board.

Items in section 2 (c) and (e) (iv), and the whole of sections 5 and 6 may be performed in an FSTD. The FSTD must be approved for the purpose and must be of the same aeroplane type/class as used for the remainder of the skill test.

Use of the aeroplane checklists, airmanship, control of the aeroplane by external visual reference, anti-icing / de-icing procedures and principles of threat and error management apply in all sections. The FE shall take no part in the operation of the aircraft except where intervention is necessary in the interests of safety or to avoid unacceptable delay to other traffic.

The CPL Skill Test is very demanding. It is acknowledged that even the most 'professional' or 'talented' pilots can make mistakes. This does not necessarily result in a "fail".

2. Helicopter

	CPL (H) SKILL TEST
EASA reference:	Part-FCL Subpart D and Appendix 4
Who can test:	FE (CPL) • When two flights are required both the en-route procedure and general handling are to be conducted by the same examiner.
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. • 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).
Notes:	**Training** • 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. • 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.

Module 7 – Instrument Rating – IR (Aeroplane and Helicopter)

The following comments and information are offered to assist the examiner to conduct a thorough flight test. These suggestions will support in making accurate assessments of the applicant's skills and knowledge.
All items of the skill test shall be performed utilising the flight test standards of module 3 or 4 respectively and flight test tolerances depicted on the skill test form.

1. Aeroplane

Quick Reference:

Part-FCL reference	Appendix 7 to Part-FCL
Who can test:	IRE (an IRE or suitably qualified CRE may conduct the IR revalidation or renewal proficiency check)

1.1 General

The skill test and proficiency check will be performed according Appendix 7 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 IFR procedures
Section 4 Precision approach procedures
Section 5 Non- precision approach procedures
Section 6 Flight with one engine inoperative

An applicant for an IR shall have received instruction on the same class or type of aircraft to be used in the test.

An applicant shall pass all the relevant sections of the skill test. 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 again. An applicant failing only one section shall only repeat the failed section.

The test is intended to simulate a practical flight. The route to be flown shall be chosen by the examiner. An essential element is the ability of the applicant to plan and conduct the flight from routine briefing material. The applicant shall undertake the flight planning and shall ensure that all equipment and documentation for the execution of the flight are on board.

The duration of the flight shall be at least 1hour.

At the discretion of the examiner, any manoeuver 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 demonstration of flying skill requires a complete retest.

An applicant shall fly the aircraft from a seat where the PIC functions can be performed and has to carry out the test as if there was no other crew member. The examiner shall take no part in the operation of the aircraft, except when intervention is necessary in the interests of safety or to avoid unacceptable delay to other traffic.

An applicant for an IR shall indicate to the examiner the checks and duties carried out, including the identification of radio facilities. Checks shall be completed in accordance with the authorised checklist for the aircraft on which the test is being taken. During pre-flight preparation for the test the applicant is required to determine power settings and speeds.

Performance data for take-off, approach and landing shall be calculated by the applicant in compliance with the operations manual or flight manual for the aircraft used.

1.2 Conduct of Test/Check

The aeroplane

The aeroplane for the IR-skill test/proficiency check shall be suitably equipped for instrument flight.

The briefings

The pre-flight briefing should be according to module 2 of this FEM.
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:

1. simulation of instrument conditions
2. simulation of an engine failure
3. removal of radio aid information when required
4. actions to take in case of an actual emergency
5. use of the radio if required to perform the test
6. any other item to be determined by the examiner

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

The skill test

The flight test items of the skill test/proficiency check has to be performed according to the flight test standards in module 3.

2. Helicopter

Quick reference:

	IR (H) SKILL TEST
EASA reference:	Part-FCL Subpart G and Appendix 7
Who can test:	IRE.
Test format:	• Complete the schedule shown on the form in Appendix 7 to Part-FCL
Notes:	Training • Applicants must have completed the relevant syllabus of training as prescribed in Part-FCL and present evidence of completion of all the training and a recommendation from the ATO for the test.

	IR (H) REVALIDATION/RENEWAL
EASA reference:	Part-FCL Subpart H and Appendix 9
Revalidation:	12 months validity The revalidation may be flown within 3 months of the due date, the new validity being 12 months from the end of the month of that due date. When the revalidation is flown as part of a proficiency check then the IR will be valid for the same period as the type rating.
Who can test:	TRE, IRE The SFE is to nominate an examiner for the third and subsequent series.
Form used:	National Form
Form guidance:	• Countersign applicant's logbook as PIC under supervision after a successful test. If the test is failed applicant records as a dual. • Check applicant's application form and enter test details.

Module 8 – Skill test and proficiency check for MPL, ATPL, type and class ratings and proficiency check for IRs (Aeroplane and Helicopter)

The following comments and information are offered to assist the examiner to conduct a thorough flight test. These suggestions will support in making accurate assessments of the applicant's skill and knowledge.

All items of the skill test shall be performed utilising the flight test standards of module 3 or 4 respectively and flight test tolerances depicted on the skill test form.

1. Aeroplane

Quick Reference:

Part-FCL 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. A SFE may only check parts of a check/test which can be conducted on an FSTD.

Conduct of test/check

Unless otherwise determined in the Operational Suitability Data established in accordance with Part-21, the syllabus of flight instruction, the skill test and the proficiency check shall comply with Appendix 9 to Part-FCL.

During the proficiency check, the examiner shall verify that the holder of the class or type rating maintains an adequate level of theoretical knowledge.

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 demonstration of flying skill requires a complete re-test.

An applicant shall be required to fly the aircraft from a seat where the PIC or co-pilot tasks can be performed or to carry out the checkflight as if there is no other crew member if taking the test/check under single-pilot conditions.

Checks shall be completed in accordance with the checklist for the aircraft on which the test is being taken and, if applicable, with the MCC concept.

The examiner shall take no part in the operation of the aircraft except where intervention is necessary in the interest of safety or to avoid unacceptable delay to other traffic.

The applicant shall operate as PF during all sections of the skill test, except for abnormal and emergency procedures, which may be conducted as PF or PNF in accordance with MCC. The applicant for the initial issue of a multi-pilot aircraft type rating or ATPL shall also demonstrate the ability to act as PNF. The applicant may choose either the left hand or the right hand seat for the skill test if all items can be executed from the selected seat.

The following matters shall be specifically checked by the examiner for applicants for the ATPL or a type rating for multi-pilot aircraft or for multi-pilot operations in a single-pilot aeroplane extending to the duties of a PIC, irrespective of whether the applicant acts as PF or PNF:

(a) management of crew cooperation;
(b) maintaining a general survey of the aircraft operation by appropriate supervision; and
(c) setting priorities and making decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation, including emergencies.

The test/check should be accomplished under IFR, if the IR rating is included, and as far as possible be accomplished in a simulated commercial air transport environment.

In the case of single-pilot high-performance complex aeroplanes, when a skill test or proficiency check is performed in multi-pilot operations, the type rating shall be restricted to multi-pilot operations. If privileges of single-pilot are sought, the manoeuvres/procedures in section 2.5, 3.9.3.4, 4.3, 5.5 and at least one manoeuvre/procedure from section 3.4 of the skill test form have to be completed in addition as single-pilot.

The examiner must also be qualified for single- or multi-pilot operations on the relevant type of airplane to conduct a skill test or proficiency check for single- or multi-pilot operations.

An examiner shall plan a test/check flight so that the flight time in an aeroplane or in an approved FSTD is not less than 60 minutes for SP type or class ratings and not less than 120 minutes for MP type ratings.

Flight Simulation Training Devices (FSTDs)

Items which may be trained and tested in a FSTD are identified in Part-FCL requirements. FSTDs used must have been approved for the purpose by the competent authority responsible for certification. The device can be identified by the examiner through its certificate and a unique authorisation number.

2. Helicopters

Quick Reference

	SPH/MPH TYPE SKILL TEST
EASA reference:	Part-FCL Subpart H and Appendix 9
Who can check:	FE CPL (H), FE PPL (H), TRE (H) as authorised. A SFE may only check parts of a check/test which can be conducted on an FSTD.
Form used:	National form
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 are giving the examiner the flexibility to adjust the flight test to be suitable to operational conditions or helicopter type. Those items not being labeled with 'M' (for mandatory) do not mean that the item can always be ignored. It is not satisfactory just to fly the basic minimum profile without assessing the pilot's ability to operate those aircraft systems being necessary for the safe operation of the aircraft type, in both normal and abnormal conditions. • If the test is to be completed on an SEH, the examiner is required to conduct an oral TK test for which the applicant requires 75% to pass.
Notes:	**Training** • 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. • If the test is to be conducted for a first MEH type, then applicants must meet the requirements of EASA FCL 720.H. **Revalidate by experience:** A pilot who successfully completes an LST for an additional type can achieve revalidation for other types in accordance with the following: **SEP Types** 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. **SET Types** 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: (i) Completed at least 300 hours as PIC of helicopters; and (ii) Completed 15 hours on each of the types held; (iii) Completed at least 2 hours as PIC flight time on each of the other type(s) during the validity period. Notes: (i) The examiner shall ensure that there is a rotation of types tested on. (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.

	SPH/MPH TYPE /IR PROFICIENCY CHECK REVALIDATION/RENEWAL
EASA reference:	Part-FCL Subpart H and Appendix 9
Who can check:	FE CPL (H), FE PPL (H), TRE (H) as authorized. The SFE is to nominate an examiner for the third and subsequent series.
Form used:	National form
Test format:	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 not being labeled with 'M' (for mandatory) do not mean that the item can always be ignored. It is not satisfactory just to fly the basic minimum profile without assessing the pilot's ability to operate those aircraft systems being necessary for the safe operation of the aircraft type, in both normal and abnormal conditions.
Notes:	**Revalidation** A proficiency check can be flown up to 3 months before the expiry date with no loss of the original expiry date, provided the candidate has completed 2 hours as a pilot (which may include the duration of the LPC) in the 12 months preceding the expiry. **Renewal** For a renewal the applicant has to present the examiner a certificate from an ATO to verify refresher has been successfully completed (note: the ATO assessment certificate is required even if refresher training was not required). **IR** 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.

	MPH.IR(H) – Initial issue skill test conducted on MP(H)
Part-FCL reference	Appendix 9 to Part-FCL
Who can test:	TRE (H).
Form used:	National forms
Test format:	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): • The briefing must specify that the safety pilot will not exercise judgement decisions or pre-empt PF requirements. The PF orders all checks and equipment set-up. The pre-flight briefing is to be attended by all flight crew members. The following items are to be decided before the flight: • The method for simulating engine failure. • The method of screening and limited panel practice. • Items which cannot be conducted in flight for safety reasons. These items may be checked by the examiner by asking questions • Any minima that the PF is subject to by the operator.
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:	IR(H) is valid only for helicopter type on which the skill test is completed. MPH type rating and MPH IR(H) is not valid for SPH role on type and vice-versa. 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.

	SPH type rating licence skill test
Part-FCL reference	Part-FCL Subpart F Appendix 3 to Part-FCL.240
Form used:	National forms
Who can test:	AE(H) - SEH/MEH, FE(H) - PPL SEH, TRE(H) - SEH/MEH
Notes:	**Training** If the test is to be conducted on a multi-engine helicopter applicants must have 70 hrs PIC on helicopters and have completed the Part-FCL specified type rating requirements. The applicants must also have passed a written test set by an ATO and approved by the authority, on the helicopter type (75% pass mark). **Testing** Applicants not wishing to revalidate an IR(H) shall omit this section.

	SPH type rating proficiency check
Part-FCL reference	Appendix 3 to Part-FCL.240
Period:	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.
Who can test:	AE(H) - SEH/MEH, FE(H) - PPL SEH, TRE(H) - SEH/MEH
Form used:	National form
Test format:	To revalidate by experience for SEH piston group as shown in Appendix 1 to Part-FCL.245(b)(3): 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.
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.

Module 9 – Assessment of competence of instructors (aeroplane and helicopter)

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 shall be available for the briefings and the flight:

a) AIP
b) AICs
c) Navigation material, charts, computer
d) Flight handbooks
e) Instructor guides
f) Training syllabus
g) Pilot licences

Appropriate literature and training aids being representative for the test aeroplane shall be used for the lecture and briefings.

Theoretical Knowledge

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

a) Air law
b) Aeroplane/Helicopter general knowledge
c) Flight performance and planning
d) Human performance and limitations
e) Meteorology
f) Navigation
g) Operational procedures
h) Principles of flight
i) Administration

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

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

If the test is used for the issue or revalidation of an IRI, the questions shall 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.

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 FCL.930.FI, FCL.930.TRI, FCL.930.CRI and FCL.930.IRI, 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.

The four basic components of the lecture will be:

1. The aim of the lesson
2. Principles of flight (briefest reference only)
3. Air exercises (what and how and by whom)
4. Airmanship (weather, flight safety, etc.)

The lecture should contain:

1. 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

The pre-flight briefing

The pre-flight briefing should be a short practical briefing of about 15 to 20 minutes.
The examiner shall 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 mentioned above.

The flight

When the assessment is conducted for an SFI rating it shall include a minimum of 3 hours of flight instruction.

For all other instructor ratings the assessment shall consist of a minimum of 1 hour of flight instruction. The chosen exercise briefed during the pre-flight briefing shall be the main exercise of the flight.

Before the flight the examiner shall clearly identify:

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

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.

The applicant shall:

1. demonstrate instructional knowledge of common errors made by 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.

The 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

Post Flight Briefing

The assessment of the post-flight briefing will be in accordance with the pre-flight briefing.

(Define numbering and structure of the directive, further structuring in sub-chapters is possible.)

4. Records and control of document

4.1 Records

Name of record	Contact / Division	Archive location	Archiving period	Comments
Checkform, Manual Entry in Licence	LSA/PEL/Licencing	kept in hardcopy	7 years, according document control directive	none

4.2 Archiving

7 years

5. Relevant documents

None